IA ENSTERÄ

100 SPACES

a fervent exercise in scenic flexibility, sustainability, and pedagogy

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FROM THE SCRIBBLER

The basis for this research originally stemmed from my passion for motion and movement, of audiences, performers, energies, whatnot. As the world becomes more and more inhabited by technological communication, there appears to be a growing need for direct, physical human interaction. And as creatives, how can we converge to feed this need? How can we teach our audiences to investigate how they feel and how to express themselves? It is my passion to not only find out, but to develop scenographic tools to break down barriers of accessibility for the current and the future generations.

In truth, *100spaces* as a project and an arena for research could not have happened without a strong support group:

I would first like to thank my thesis advisor Tua Helve of the School of Arts, Design, and Architecture at Aalto University. She consistently and patiently allowed this paper to be my own work, but nudged me into more academic directions when I would veer entirely too far off course.

I would also like to thank my professor Liisa Ikonen, for she took a chance with a designer who's been around the block a few times, but knew could still find new areas on interest and learning. Without her resolute and stoic support, this creative might still be distractedly wandering around the hallways of academia.

I would also like to thank these experts directly involved with *100spaces*:

- Scenographers Jyrki Pylväs and Reija Hirvikoski. Without their passionate participation and input, the artistic evaluation of this work could not have been successfully conducted.
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- The pedagogy teachers and groups, for serving not only as inspiration, but also for taking a chance on an unfamiliar entity. From them I have gathered information that will serve me for the rest of my career.

On the familial front, I must express my very profound gratitude to my mom, aunt, sisters, in-laws, and to my son for providing me with unfailing patience and encouragement throughout my years of study.

And most graciously to Stacy, for her unwavering show of tenacity, support, fortitude, and faith, for she always understood…or at least made me believe so.

And to a worldwide epidemic that left no other options but to stay away from others, exercise, and write.

KEEP CREATING... *Ia!*

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ABSTRACT

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ABSTRACT: Using *100spaces* as the base for a case study, this thesis investigates the importance of including scenic designers within the dance and theatre pedagogy program. This methodical examination into parallel themes of immersivity, causality, rhythm and movement, sensory awareness and application, ecology and sustainability, and performativity of audiences and performers alike, demonstrates a strong correlation between core objectives of scenic design and pedagogy. The *100spaces* project raises serious questions about the essentiality of accounting for time within collaborations at universities, and the benefits of learning from one another. Although university-level pedagogy studies in dance and theatre are currently taught with academic, theoretical, and philosophical concepts in mind, these studies would be notably enhanced by the addition of design abilities, dramaturgical creativity, and ecological awareness acquired and practiced by scenic designers and scenographers. Thus, a conclusion can be made that, given the proper amount of concerted collaborative time, the curriculum of both programs would benefit from the inclusion of the other.

KEYWORDS: theatre pedagogy, dance pedagogy, scenic design, set design, scenography, immersivity, sustainability, 110spaces, 100tilaa, curriculum

View of the entire 100spaces *playing area from catwalk, days before opening*

INTRODUCTION

OBJECTIVES AND QUESTIONS

"Put me in, coach. Put me in."

– Loosely based on the John Fogerty song "Centerfield"

Set designers are no strangers to begging. As a matter of fact, we become quite proficient in pleading, whether it be to get directors to try something new, for construction shops to build in a certain way, for the lighting designers to add a bit of light here and there, for the fire marshalls to let one slide, etc. However, after 20 years of theatrical design, I find myself in a completely unfamiliar position to beg those who create the pedagogy curriculum to please include us in their academic program.

The Theatre Academy of the University of the Arts Helsinki houses the largest and most comprehensive theatre and dance pedagogy program in Finland. And although the Theatre Academy educates all other facets of performance studies, set and costume design are taught at a separate university: Aalto University, School of Arts, Design, and Architecture. Fortunately, the two universities offer open doors for students to take courses and collaborate on projects at each other's campuses. Unfortunately, there still exists quite a schism between some of the programs, specifically between the pedagogy and the design programs. It is as if neither knows the existence of the other, or is unaware of the benefits of the other. With the *100spaces* project, I just happened to stumble into this schism, and managed to crawl out with a new appreciation and understanding of the pedagogic process, and knowing more could be achieved collectively.

Why would it be important or profitable to include set designers with the dance and theatre pedagogy curriculum? Exactly how would this benefit each program and each student?

Currently university-level pedagogy studies in dance and theatre are taught how to teach using concepts of academia, theory, and philosophy. However, these studies could be remarkably amplified by the addition of design abilities, dramaturgical creativity, and ecological awareness acquired and practiced by scenic designers and scenographers. And, equally, vice versa. In this thesis research, as I weave with you through the similarities in scope in ideas of immersivity, audience involvement, sense stimulation and prioritization, presence, sustainability and ecology, motion and movement, and effectivity of environment, the importance of such collaboration between the two programs will become most evident.

Using the *100spaces* project as the case at hand, I aim to identify where bridges of collaboration would have been constructive to the experience of the creatives as well as the audiences. Dissecting the design objectives of each scenic element, I not only indicate the pedagogic possibilities I sought to explore with the design, but also what the pedagogy groups materialized in their performances. By doing this, I identify where the schisms may have been better bridged between pedagogy and design, and call attention to just how important extensive collaboration is to the cultivation of creative processes.

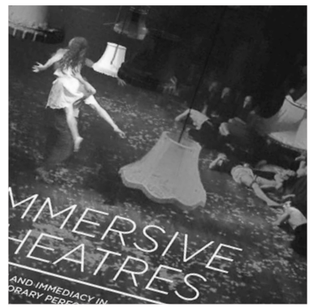
To ignore the benefits of collaboration between theatre and dance pedagogues and set designers would be a disservice to all involved. Thus, I implore you, I beg you, from one creative to another, please give the next generations of pedagogues and designers the opportunity to learn from each other and in doing so, enrich their own creative capacities.

Pedagogy student-directors discussing performance schedules with professor Eeva Anttila, model in foreground.

Participants playing on the Arc. Group C.

LITERATURE REVIEW

100SPACES: FROM THEORY TO IMPLEMENTATION



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Pedagogy and set designers

COMPONENT 1

LITERATURE REVIEW

IMMERSIVITY

"We're trying to break the formulaic conventions of going to the theatre. At the theatre you're in a pack. There is safety in numbers. We want the audience to feel the rug has been pulled and they're having to make conscious decisions about what to do next. And there's nothing like apprehension to get the synapses firing. Once you've had that heat of slight rising concern, then you're there in the space, you're active, you're part of it ...It's all about presence."

Felix Barrett, Punchdrunk Theatre (Hemming, 2013)

Since the turn of the century, research into the history and definition of immersive theatre has witnessed an emergence through quite a number of academic researchers as well as practical researchers. Academic researchers, such as Josephine Machon, Matt Trueman, Susan Bennett, and Claire Bishop, are accredited with the task of gathering, analyzing, defining, and explicating the art of immersive or experiential theatre in terms of theoretical, academic research. These academics are tasked with creating the vocabulary necessary to define and describe immersive theatre. Whereas, practical researchers such as punchdrunk, Lundahl & Seitl, Third Rail Projects, and dreamthinkspeak

have spent their operational years in functional, visceral research of immersivity, immersive theatre, and its impact on audiences, theatre, art, society, and even and oft-times especially the environment. Therefore, although the practice of researching immersivity may, indeed, be in its infancy as compared to other theatre research, quite a number of individuals and groups have quickly made strides in both academic and practical research into immersive theatre.

Academic and practical researchers have offered various definitions for immersivity and immersive theatre. Interactive theatre may be defined in layman's terms as: " a presentational or theatrical form or work that breaks the 'fourth wall' that traditionally separates the performer from the audience both physically and verbally." ("Interactive Theatre," n.d.). Or it may be defined in more specific, almost poetic terms:

> Immersive theatre makes one's physical presence inescapable. With no distance between oneself and the work, the edge of one's body is the beginning of the work's sphere. An awareness of the work, involves an awareness of one's body. We perceive it not just through the eyes and ears, but through our whole body, whether by touch or movement, smell or taste. . . Immersive work makes us bristle in a way that traditional theatre, watched from afar, does not. (Trueman, 2011)

Whether the preferred idea of immersive theatre is simple or poetic in nature, immersive theatre is a type of contemporary, inter-medial performance which generally involves one or more aspects of improvisational theatre, environmental theatre, performance art, promenade theatre, interactive/participatory theatre, and site-specific theatre. It requires no permanent relationship between the script and the stage, nor the stage and the audience. With immersive theatre, the audience is absolved of the rules and conventions expected at traditional, conventional theaters (Lehmann, 2006). The attendee is placed into a foreign environment and context, blurring lines between spaces, roles, dimensions, and expectations. In the place of conventional expectations, immersive theatre operates more from within the mind and body of the attendee rather than leaving the attendee a passive consumer, to observe the action from the outside. Immersivity brings with it a sense of being in the moment, of being in the present. This brings with it a heightened sense of vulnerability, excitement, of experiencing something raw, something new. These are all traits shared to varying degrees with contemporary performance and theatre genres.

Although immersive theatre productions vary in definition, structure, style, message, and ideology, all productions share some common central features. These features, as outlined in *Immersive Theatres* (Machon, 2013), are involvement of the audience, prioritization of the sensual world, and the significance of space and place. Involvement of the audience is crucial to ensure that the audience's functions and experiences develop and progress according to immersive practice methodologies. Prioritization of the sensual world must be unique to each project. And the significance of space and place incorporate the venue, architectural details, landscapes, geographical locations, history, politics, community and local culture specific to each production. Without the inclusion of these three elements, the immersivity of a production or a performance can be questionable.

Involvement of the Audience

In immersive theatre, audience involvement and its impending evolvement, are attended to on several levels and forms. The attendee of immersive theatre becomes either an active or a passive partaker in the performance. This decision to become either an interactive participant or a passive participant lies solely with each audience member, and varies with each production. As immersive theatre audiences alter the performances with their activity or inactivity, the performances are in turn altered for proceeding performances, thus influencing the trajectory of productions. It is a contributory spiral-like pattern of evolution of both artist and attendee. The production may guide the attendee, but the attendee will also guide the artist and the production. This is true whether the audience member chooses to be interactive or passive. However, this choice made by the audience member does not determine immersivity level of the production. Immersivity and interactivity are not necessarily interchangeable: Immersive theatre may not include interactive elements, and interactive theatre may not be immersive at its crux. (Machon, 2013)

Because the initial design for *100spaces* was conceived months prior to any collaboration with the PEDA directors, all attention was afforded to the immersivity of the audience-to-be. At the time of inception, the audience was stated as 4-94 years of age, with or without supervision, and with unknown physical and mental abilities. With this extremely limited knowledge of the attendees' background, priority became to design with all abilities in mind; to bring forth an active (or passive, if so chosen) participant, one who would feel empowered to explore various

parts of the space, the performance, and most importantly, oneself, no matter the circumstance of ability. The goal became to cultivate a participant who would feel immersed, actively or passively, wholly or in part, according to their particular wishes. Additionally, although the scenic design had to incorporate the space as a whole, the levels of immersivity would vary with every single performance in that space. Knowing the space and the immersivity would alter depending on each group, the rudimentary framework was designed to act as a springboard for the ideas and movement of PEDA directors and attendees in various parts of the space. However, although the project had many goals, the main goal of the set design at large was to engage every attendee to view the space differently than when he or she first entered it…and although never directly discussed with the PEDA directors, a minor goal of the set design was to promote irreverence and anarchy in lieu of order and stagnation.

Prioritization of the sensual world

Immersive theatre has a long history of engaging the audience through immediacy, intimacy, and the stimulation of senses. The immediacy of theatre, in general, differentiates it from other arts. Theatre, in general, involves the audience and its makers in an active understanding of human experiences. It takes place in real-time in front of the spectators' and artists' eyes. Theatre is fleeting. It is momentary. Once the performance has concluded, it no longer exists. That specific performance can never be duplicated, imitated, or repeated. The same is true for all genres of theatre, including immersive theatre.

Intimacy, also related to immediacy in several aspects, is also incapable of repetition. It is the relationship birthed and maintained between a performer and each audience member. Intimacy cannot be transferred, nor can it be copied from one performance to another. Intimacy is a two-way street, where both parties benefit from the existence of the other. Without one, there is no relationship. Without relationship, there is no theatre, especially immersive theatre. And just as immediacy is fleeting, so is intimacy. (Machon, 2013)

What differentiates immersive theatre from theatre in general is the stimulation of the senses. Conventionally, theatre has focused solely on two senses, the visual and the aural. However, immersive theatre is not quite as binary. In the words of Josephine Machon:

> Awakening and engaging the fullness and diversity of sensory awareness is a central feature of immersive practice. (...) Crucial to immersive practice is the fact that there is no focus on one particular sense but rather a play within the realm of the senses combined in an acknowledgement, manipulation and celebration of the power, promise and potential attributable only to live performance. (Machon, 2013:75)

It is by prioritizing all of the senses that new appreciation is discovered for immersivity and immersive theatre. The objective of immersive theatre design is to responsibly accentuate the senses of its audience, whether attention is paid to just one single sense, maybe two, or perhaps to all senses (Di Benedetto, 2007).

100spaces was originally designed to awaken and challenge all the senses of not only the audience but initially the PEDA directors themselves. The purpose of the design was to arouse the reticular activating system (RAS) of each and every attendee, and to see what and where that would lead. The RAS is associated with nearly everything we do. Its main functions are the control of the motor, sensory, visceral, and consciousness. According to Hal Blumenfeld, Professor of Neurology, Neuroscience, and Neurosurgery at Yale University, "The superior portion of the RAS, which is based in the upper pons and extends into the midbrain, regulates arousal level and consciousness. In contrast, the inferior portion of the RAS, which lies in the lower pons and medulla, tends to be primarily involved in motor and autonomic function." (Blumenfeld, 2002:126). The RAS activates the cerebral cortex with vitality, awakening it, expanding its degree of excitement and readiness for interpretating any and all incoming data and preparing the cerebrum for appropriate activity.

All learning requires a minimal degree of excitement in order to concentrate, recall, and put learning into a memory library. The capacity to regulate emotions, which is often a marker for behavior issues, also relies on adequate degrees of cortical arousal to restrain impulses and to control compelling emotions. Under-aroused children tend to be irritated or fussy, and are unavailable for learning. It is integral to the learning process of children and adults to engage their RAS. This, subsequently, made the decisions for the initial scenic design for *100spaces* important to the very outcome every pedagogy student director aimed to achieve.

Set designers in theatre are taught to utilize at least one of the senses to awaken the RAS in the

audience, the visual sense. However, immersive theatre designers are continuously challenging themselves to encompass as many of the senses as wanted and needed for every production. Immersive theatre designers are on the edge, pushing the imagination of the audience as far as possible, without pushing them over. It is the objective of immersive design to combine the senses to activate the RAS in the audience members, and to arouse them for new events and endeavors.

Visual sense (sight): Perhaps the most recognized sense in the art world, visual sense is also one of the two most popular in theatre and performance (Di Benedetto, 2010). Visual stimuli is picked up by visual receptors located in the eye. These visual receptors are stimulated by light, color, and movement, or in some cases, the absence of them.

Visual sense is a human's first line of defense, and thus regarded as the initial determiner of safe versus harmful, of pleasing versus displeasing. In conventional theatre, the action onstage does not elicit the need for a defense. The audience and performers can rely on conventions such as "fourth wall" and systems such as fire detectors to ensure safety. However, in immersive theatre, the visual sense is often stripped of such safety conventions. Thus, making it a tool for the directors, dramaturgs, designers, and, in the case of *100spaces*, pedagogy student-directors to take into consideration when constructing a performance, and to utilize the visual sense responsibly, vigilantly, and with discretion.

Auditory sense (sound): Sound is considered to be the second most favored sense in theatre. Sound is processed via the Auditory sense. Auditory receptors in the inner ear identify loud and quiet, high and low, and the near and far noises in the surrounding area. Thus, sound is also seen as an important part of the brain to contemplate personal safety.

Immersive theatre has a long history of utilizing sound to elicit reactions from the audience, reactions that a conventional theatre audience has been conditioned to withhold. In conventional theatre, when the audience hears a doorbell ring, no one from the audience is expected to answer the door. However, given the closer proximity to action and sound itself, immersive theatre can urge the audience to do just that, to answer the door. And however odd it may seem, sound is not reserved only for the sound designer. It is often used by set designers, directors, choreographers, and the like to elicit responses from the audiences. It is the relation to

other design elements, primitive human instincts, and the audience that make a performance immersive. The experience of sound can be the most recognizable and common part of our otherwise unfamiliar, antipodal immersive experience.

Depending on the time of day the attendee would inhabit the *100spaces* exhibit, the soundscape would vary according to sounds of the building, sounds of the lighting, sounds of movement magnified by the microphones and speakers attached to scenic elements. As attendees would climb, walk, run among the scenic elements, the elements would emit a multitude of sounds and echoes. These sounds would also differ greatly whether the attendee was situated close to the floor, or on the upper levels.

Somatosensory, haptic, or tactile sense (touch): Touch is processed via the tactile or haptic sense. Tactile receptors recognize the sensation of touch and are located on the entirety of our skin. Some parts of skin possess additional tactile receptors than other areas, for example mouth and hands. The tactile senses are significant for identifying and recognizing contact, pressure, discomfort, climate and texture. As described by Rosalyn Driscoll, the haptic sense "is the oldest, most comprehensive and complex of the senses, with receptors embedded throughout the body from the skin down into the joints and muscles (…) a deep well of sensory input" (Driscoll, 2011, as cited in Machon, 2013:75). The tactile sense is especially valuable in the realm of early childhood development.

Upon entry to *100spaces*, the attendees were asked to remove their shoes and coats. The set materials consisted of smooth and rough wood, painted and unpainted surfaces, miscellaneous recycled plastics, varied types of carpeting and fabric, and included small items, such as small baby food jars, and large items such as wooden cable spools. The attendees were invited to touch with hands and feet, with knowledge some younger audiences may prefer to connect with their mouths or any number of body parts most adults might prefer to neglect.

Olfactory sense (smell): Smell is processed via olfactory receptors based in the nose. Olfactory senses can recognize a cornucopia of scents including sharp or pungent, floral, rancid and dank or musty. Smell is the sense most closely connected to memory (Mouly & Sullivan, 2010), and thus is a useful tool to conjure a plethora of emotions from the attendees. This, in turn, can be used to explain themes and stories in a more straightforward and visceral manner.

As most black box theaters tend to exhibit a certain collective odor of dust, metal, blood, sweat, and tears of many years and projects past, *100spaces* became a layered olfactory event. Attendees were enveloped by odors of said black box smell, used wooden pallets and cable spools, new and used lumber of mixed variety, carpets constructed of assorted fabrics, plastics of diverse content, lighting instruments burning off dust, and with an interactive part provided by Heini Granberg in the form of small, lidded baby food jars, packed with coconut shavings, whole cardamom seeds, pistachio shells, lavender cuttings, raw cocoa bits, whole carnation, sesame seeds, and various other seeds and beans. These materials were adhered, with melted sugar, to the insides of the baby food jar lids. Attendees were encouraged to explore the scents at their leisure.

Gustatory sense (taste): Taste is processed via the Gustatory sense. Gustatory receptors, situated on our tongues and connected to the olfactory sense, pick up taste and categorize flavors into bitter, sweet, sour, salty and spicy. Given the possible health and legal matters associated with edibles, beverages, and libations, most theatre performances will disregard this particular sense. However, some will brave it, especially immersive theatres, and even make a meal the principal part of the performance. As a sensory encounter or experience, taste engages in various approaches not solely nasally and orally, but also through the ears, eyes, and skin.

As pointed out by scholar and professor Barbara Kirchenblatt-Gimblett:

> Food and performance converge conceptually at three junctures. First, to perform is to do, to execute, to carry out to completion, to discharge a duty. (...) To perform in this sense is to make food, to serve food. It is about materials, tools, techniques, procedures, actions. (...) Second, to perform is to behave. (...) To perform in this sense is to behave appropriately in relation to food at any point in its production or consumption or disposal, each of which may be subject to precise protocols or taboos. (...) Third, to perform is to show. (...) It is here that taste as a sensory experience and taste as an aesthetic faculty converge. (Kirshenblatt-Gimblett, 1999:1)

For *100spaces*, any stimuli for the gustatory sense was rather difficult to produce, as edibles were not allowed. With the exception of some younger attendees who elected to experience various scenic elements with their mouths, the attendees' gustatory senses were not peaked by

any specific, direct scenic elements. Thus, the gustatory sense became secondary to the other senses, relying mostly on the olfactory sense to elicit any gustatory response.

Vestibular sense (movement): Movement and balance are managed by vestibular receptors situated in the inner ears. Any sort of activity or movement which alters the posture of the head alters the vestibular senses. These senses can extricate between motion velocity and orientation of movement, and are closely linked with the visual sense.

100spaces was designed to impel the audience to move in all directions. As mentioned earlier in the section concerning visual sense, levels were an integral part of the design. The scenic items were placed in a manner to encourage changes in movement, with some elements pushing action in circular, square, or arc-like patterns whilst others encouraged an alternating start-stop-start-stop rhythm in movement. The pedagogy student directors were able to choose, consciously or subconsciously, what scenic pattern of movement was best associated with the mood or pattern of movement they anticipated to achieve with the audience.

Synesthetic sense (intuition), sometimes grouped with proprioceptive sense: According to Josephine Machon, synesthesia "draws on an unusual feeling of 'knowing' and loosely connects with what I have previously referred to in relation to experiential performance as a '(syn)aesthetic sense', where the fusion of cerebral and corporeal cognition encourages the full sentience of the human body, drawing on intuition, to make sense/sense of the unarticulable" (Machon, 2011:80). Often referred to as the Sixth Sense, synesthesia in the manner Machon has described it, is not quite in line with the definition adopted by the researchers of psychology. In psychological studies, synesthesia is a neurological syndrome or condition in which the provocation or stimulation of one sensory or mental pathway, such as hearing, generates automatic, spontaneous experiences in a second sensory or cognitive pathway, for example, vision. Basically, when one sense is triggered, another unrelated sense is triggered simultaneously. This may, for example, take the form of hearing music and concurrently sensing what is heard as color whirls or patterns.

As mentioned earlier, synesthetic sense in theatrical terms and use is not quite akin to definition used in psychological studies. Theatre uses synesthetic sense to draw upon the intuition of the audience member to understand that which perhaps cannot otherwise be understood.

In the case of the initial scenic design for *100spaces*, this information would be quite difficult to gather, considering many audience members have only a few years of living experience to draw from, and may be unable to articulate those feelings or activities within themselves. Also, as the space was to be open for 10 hours per day, some audiences were supervised or semi-supervised whilst others were free to discover spaces and places at their own leisure.

Proprioceptive or kinesthetic sense (body awareness), sometimes grouped with synesthetic sense: Body awareness can be described as knowing where our bodies and parts of our bodies are located in a space and how the bodies or parts of bodies are moving. This being and movement is processed by the proprioception sense. As bodies move, proprioceptive receptors are prompted by the movement and the muscle contractions involved. Proprioception is negotiated by proprioceptors, the mechanosensory neurons located within the muscles, tendons, and joints of bodies. Movement through complete darkness would be impossible without proprioceptive senses to organize movement in the body.

Perhaps one of the most important senses considered in the initial scenic design for 100spaces, proprioceptive/kinesthetic sense was a leading factor for the placement of the scenic elements. At the very initial stages of the *100spaces* project, the thesis examination was to include the movement of atoms through the space, including research of connectivity, interconnectivity, entanglement, quantum entanglement, and behavior of atomic particles given certain scenic/spatial stimuli. However, as the project evolved, instead of studying the movement of energy, atoms and neurons in a theatre space, it became more important to study the effects of body awareness in relation to the scenic elements, and how to mold the movement of bodies in a semi-controlled space…and, moreover, how this movement of bodies was a large part of the education cycle and needed to be included in pedagogical studies, as a whole.

Sensory Deprivation or Perceptual Isolation: Immersive theatre is not relegated to just the action of imbuing audiences with sensorial engagements. One of the alternatives to adding a sense is the actual removal or deprivation of a sense or senses. Sensory deprivation is the intentional reduction or starvation of stimuli from one or more of the senses. It has been a tool of researchers, scientists, militaries, prison systems, psychologists, artists, and thespians worldwide, whether used positively or negatively. According to researchers Christina Daniel and Oliver J. Mason (Daniel & Mason, 2015), merely 15 minutes of sensory deprivation can generate

vivid hallucinations. In a 2015 study conducted by the pair, an anechoic chamber, a room within a room, was used to generate the deprivation condition. The exterior walls were 33cm thick and the interior room was constructed of metallic acoustic panels affixed on floating flooring which in turn was coated with sizable glass fibre wedges. This type of construction resulted in a reduced noise environment in which the sound pressure of exterior levels was less than what was audible to the human ear inside the room. The anechoic chamber also has the capability to have all sources of light removed. Thus creating an environment practically completely deprived of visual and aural stimuli. The conclusion of their study showed "initial evidence in support of increase in psychosis-like experiences reflecting a genuine aberration in perceptual experience(...)" (Daniel & Mason, 2015).

The possibilities rendered with sensory deprivation in immersive theatre are limitless, and often researched, whether officially or unofficially, in research facilities or rehearsal rooms, or even amidst productions. Research practitioners such as Lundahl and Seitl have often played with sensory deprivation within a myriad of their productions. In *Symphony Of A Missing Room*, the Swedish artist duo utilized the rooms and corridors of various art museums to gently guide audience members through exhibits curated through headphones and virtual-reality goggles (although, seemingly, no video was viewed through the goggles). The goggles would permit only some light to hide through, whilst the headphones gave instructions on what to do and touch, and what the outer elements should be imagined to be (interior sounds, exterior sounds, etc) Thus, altering the audience's visual and auditory perception of location and event. Working with the deprivation of sight and the manipulation of sound alone, Lundahl and Seitl have managed to draw on a new sensibility for touch and smell, and the kinesthetic awareness within the audience's own body.

The idea of darkness, the depletion of the visual sense, is also intriguing in that it veils the social roles of the participants to a large extent. And although someone's voice can disclose quite a bit, it is potentially impossible to distinguish someone's name, age, class and gender when in complete darkness. When meeting someone in darkness, one is not able to judge whether the other has beauty, age, education, or even what their social status may be. When one touche someone in the dark, one is not able to judge any of these qualities either. This, of course, is a threat to the predominate method of organizing our desires, thanks to the preponderance of capitalism and commodity fetischism. In darkness, one is able to abandon and renounce the desires of appearance. As noted by artist and game designer Gabriel Widing, "Darkness remains an intimate sphere. It withdraws the public as well as the private." (Widing, 2011).

The senses are a wondrous playground for a theatre artist, whether a director, dramaturg, performer, or a designer. Contemporary performances are able to provoke the senses with methods previously neglected by theatre. They aim to arouse the senses in order to stimulate the consciousness of the audience. As pointed out by Stephen Di Benedetto in *The Provocation of the Senses in Contemporary Theatre*, "Through the stimulation of our senses, theatre allows us to become exposed to new perspectives and train our minds to be open to different types of experience." (Di Benedetto, 2010). Such was the aim of the scenic design of *100spaces*, to create a sensory-rich emulative environment to exercise the performers and participants' pupils, muscles, and senses. Of course, this cannot be done by sets alone. It requires a team of artists to create a particular physical and psychological state to excite the audiences. In the case of *100spaces*, the artsts were the designers and the theatre and dance pedagogy groups. Each member sporting their own bag of tools, tools to stimulate the consciousness of the audience.

Significance of space, place, and presence

Third, and last of elements of immersivity described by Josephine Machon, is the significance or importance of space, place, and presence. Space, place, and presence are determining factors within the play as well as the surroundings. When discussing the locale of an immersive theatre production, it can be difficult to distinguish between the space of the performance and the place/locale of the performance. Quite often, researchers have interchanged these words. However, in this text, space in created by the project, whereas place is the physical location of the project. Much like the old adage "Theatre is what happens inside a theater", space is what happens inside a place.

Some immersive theatre productions are semi-structured, with audiences led from place to place as a single unit or group. Other productions employ performers to prompt "adrift" spectators to head in the preferred direction. And some productions allow the audiences to wander about completely freely in the space and place, and at their own leisure. None of these forms are new to theatre, in general. For example, Medieval liturgical dramas utilized both site-specific performances, most often inside churches, and fixed exterior locations, such as mansion

stages on the public square, where the audience was transported from one space or place to the other (Hill, 2001). However, in any form of space or place, the participant of immersive theatre is guaranteed to have a highly individualized and unique theatre experience.

As for *100spaces* and the importance of space, place, and presence, the Theatre Academy's black box theater offered very little of architectural, historical, or cultural significance. Unlike the adjoining lobby area, with a cornucopia of architectural and historical, and perhaps even cultural significance, the black box theater was a complete void, a blank black slate ready to be molded into whatever the next marauding company would see fit. Whether it would host a stage in proscenium, square thrust, semi-circular thrust, half-polygon thrust, in the round, whatnot, it lay dormant without much character of its own, and even less to inspirit or instigate a connection between the place and the project. Thus, although being a fully immersive production, *100spaces* could not rely on the place given, the black box, for its immersivity as much as the space designed and created within it.

With *100spaces*, the audience was freed from the conventional rules of theatre, and were invited to explore and experience at the comfort level of each participant. The audience was free to travel from area to area, whether in front, atop, behind, and even under some elements. They were invited to be curious, roam free, forego compliance to some extent, take risks, be adventurous, and to become the event.

Immersive theatre is a form of performance that emphasizes and relies on the significance of space and design (Machon, 2013). Many, if not most, immersive productions rely on the location to dictate much of the space, tone, atmosphere, and even rhythm and emotion of the performance. Site-specific productions choose the specific site or place, whether inside or outside, as the foundation for which subsequent creative and dramaturgical layers are built upon. The site may be with or without specific historical or cultural significance. However, production companies originating immersive theatre are notably concerned with physical locations, hosting productions in alleyways, warehouses, hospitals, bars, nightclubs, restaurants, etc. Great attention is paid to corporeal details of the locale. This connection between the location and the work, embedding the dramaturgy of the space within the production itself, is for many production companies an fundamental, imperative aspect of their practice.

Play gives children a chance to practice what they are learning. They have to play with what they know to be true in order to find out more, and then they can use what they learn in new forms of play. – Fred Rogers, 1999

Participants playing under the canopy in the Circle. Group C.

COMPONENT 2

LITERATURE REVIEW

SUSTAINABILITY

"To invent you need an imagination and a pile of junk"

Thomas Edison (1915)

In the last 20 years, the theatre-world has seen an increasing number of ecology- and sustainability-driven initiatives and incentives, whether managed by individuals or companies, to bring attention to the global climate crisis taking place. This theatre movement has been called a number of differing names: green theatre, ecological theatre, eco theatre, eco-theatre, ecoscenography, ecomaterialism, sustainable theater, and environmental theater. Some of these words may be the same but with capitol letters. Whichever term and style is preferred, the usage or definition is still two-fold:

> Each term can refer to either the practice of producing plays that educate and promote ecology, or it can refer to sustainable and ecological practices that go into the making, of any production. (Mayson, 2008)

Ecology-themed work

Whether utilizing the environment as the catalyst for the art (for example, gardens grown to be artistic or scenographic elements) or putting to use the debris found within the environment (for example, art made of ocean trash), ecology-themed artistry has slowly made its way to the forefront of many different artistic movements. While some artists such as Marina DeBris (www.washedup.us), HA Schult (www.haschult.de) and Miina Äkkijyrkkä (www.miinaakkijyrkka.com) utilize collected debris to inspire and materialize their work, ecology-based works are also created by scenographers such as Tanja Beer (www.ecoscenography.com) and Andrea Carr (www.ecostagepledge.com). Both of these scenographers have made it their mission to educate others, and to create "recyclable, biodegradable, biodiverse and edible performance spaces that combine stage design, horticulture and community engagement." (Beer, 2018). Through scenography, these artists educate the audience of the perils of ignoring pollution, waste disposal, harmful effects for the environment. And whether the audience is made of children or adults, the scenographers have managed to veer the conversation to what can be achieved by each pupil. Thus, these artists and scenographers are utilizing scenography as a method to educate and instigate change of thought and behavior.

Another form of art that should be included in the discussion of ecology-themed performance venues is natural environment playgrounds (Sandseter, 2019). Although rarely are playgrounds grouped together with art forms, they are indeed sculptural elements made with an audience in mind. Natural playgrounds are immersive environments designed specifically in nature or employing natural elements. Natural environments, although having been in existence long before any other man-made playgrounds, are not just often excluded in art but also in the research on sustainability. However, they should be included in both as natural playgrounds are a vital link to how children learn to understand and shape the nature around them. And as ecology-themed work is based on the theory that humans and the Earth are interconnected, and pedagogy research delves further into methods to teach about entanglement and ecology, the connection between art, ecology, and pedagogy is most obvious. Ecologic scenography assists to demonstrate the connection from small to large: what begins with one individual, be it human, seed, act, whatnot, can grow to affect the neighborhood, community, area, nation, world.

> From an ecomaterialist perspective, the human and non-human are inextricably entangled in networks that are simultaneously economic, political, cultural, scientific, and substantial. Hence, ecomaterialism begins with a broadening of identity and blurring of reductive dichotomies towards ecological ways of engaging with the world. (Beer, 2016:162)

As entanglement theories, playground architecture, and Risky Play have all come more into the forefront of academic pedagogical research, these topics will be discussed further in the next section, Component 3: Pedagogy.

Sustainability practices

Reciprocally related to ecology-based work and under the ecology-in-arts diaspora, is the practice of "greening" theatre productions and theatre spaces. Sustainability in this form is somewhat more concrete, and instead of looking at the interconnectedness of all, it delves into straightforward ideas, methods, and actions. Sustainable theatre practices incorporate detailed consideration of materials purchased, material usage, storage and disposal, transportation of materials and people (including audiences), tool and equipment selection, and carbon and energy consumption in productions, theaters, offices, and facilities.

Some leading sources of information and promoters of ecology-conscious productions are Broadway Green Alliance (www.broadwaygreen.com), The Center For Sustainable Practice And The Arts (www.sustainablepractice.org), Earth Matters On Stage (www.earthmattersonstage.com), The Green Theatre (www.thegreentheater.org), and Julie's Bicycle (juliesbicycle.com). All of these groups provide concise online resources for sustainability practices, and most also provide classes, courses, workshops, and other in-person opportunities for education and collaboration.

Two of the ones with seemingly the farthest-reaching network, Broadway Green Alliance (BGA) and Julie's Bicycle offer quite similar mission statements. Incorporating both sections of sustainability, BGA is "an industry-wide initiative that educates, motivates, and inspires the entire theatre community and its patrons to adopt environmentally friendlier practices. As climate change does not result from one large negative action, but rather from the cumulative effect of

billions of small actions, progress comes from millions of us doing a bit better each day." (Broadway Green, n.d.). Whilst the British group Julie's Bicycle's objective is akin to BGA, but encompasses a specific goal with a partner goal (Paris Agreement):

1. Advocate to and for culture to publicly inspire action on climate change and sustainability. We will equip cultural professionals and artists with the knowledge and confidence to speak out and together on this issue, using their creativity to influence one another, audiences, and the wider movement.

2. Support the Paris Agreement Goal to limit global warming to below 2 degrees by focusing on energy, the major source of carbon emissions for the cultural sector. (Julie's Bicycle, n.d.)

In addition to those sources of information, and perhaps one of the most exhaustive resources for greening theatre productions and spaces, is *A Practical Guide To Greener Theatre: Introduce Sustainability Into Your Productions* by Ellen E. Jones. According to Jones, "When creativity and collaboration are given the same consideration as green practices there is no compromise to production values." (Jones, 2014:13). In the book, not only does Jones discuss in detail all of the above mentioned practices and sources of information, but also outlines the governmental agencies responsible for information and enforcement in the United States, the steps necessary to establish "greening" teams, and even how to incorporate sustainability into the administrative areas - including utilizing a Triple Bottom Line in lieu of a singular Bottom Line business model.

The measures of Triple Bottom Line Concept :

Fig. 1: Triple Bottom Line concept
Graphic retrieved from https://www.marketing91.com/triple-bottom-line-concept/

The Triple Bottom Line can be quite challenging to measure, because while profitability is quantifiable and standardized, equity measured in the social and environmental circles is quite subjective in nature. However, theatre and education, the main themes in the 100spaces project, are both in the social circle. And is thus unmeasurable within standardized bottom lines of profit, much like sustainability in the environmental circle.

The positive side of this obstacle of standardized measurement is that varied metrics can be conscripted that make the most sense for organization, project or location. For example, a university cafe could measure and report its amount of waste reduction by shifting to ecological packaging and delivering its unused food to a local homeless shelter or co-op instead of having it discarded and taken to a landfill.

However, as *100spaces* was not a project based on economy nor economic factors, further referencing of economic expertise on Triple Bottom Line is better left to economic professionals who have written multiple articles on the Triple Bottom Line theory, such as:

> Connie Reimers-Hild, Ph.D. - Unit Leader at the University of Nebraska
> Lincoln Kimmel Education and Research Center in Nebraska City, NE
> www.kimmel.unl.edu
>
> Timothy F. Slaper, Ph.D. - Director of Economic Analysis
> Indiana University Kelley School of Business
> www.ibrc.indiana.edu

One-third of the Triple Bottom Line is comprised of Society, which includes education and cultural sectors, such as theatre. In this sector, theatre can be quite prosperous. Theaters possess the power generated by passionate and creative people. And whilst a single individual can make several sustainable choices, it is crucial for the entire organization to support the principles of creating greener theatre. Development of organization-wide green initiatives obligates everyone in that organization to actively adopt the commitment to produce sustainable theatre and to embrace a mindset that balances green choices, safe and healthy labor practices, and artistic expression.

Greening *100spaces*

> The greatest ability to influence the environmental impact of a product in any industry is during the design process. (Mayson, 2008)

Sustainability or ecologically-responsible scenography on *100spaces* did not begin as a distinct forethought. Although sustainability and the practices associated with it are quite familiar to the set designer of *100spaces* (me), the necessity of using "green" theatre practices came into operation due to the project's initial unclarity or ignorance of budget, schedule, and available crew. It was a question of what could be achieved creatively with what was already available in storage and what could be feasibly acquired for free or very low cost… yet whilst still having no actual knowledge of themes, sizes of casts, sizes of audiences, scripts, dramaturgy, etc.

To date, wood is the primary construction material used in scenery. Although it may seem counterintuitive to view lumber as the most ecologically responsible material available, various tests prove it to be so. Lumber companies, worldwide, continue to improve methods for harvesting trees while reducing negative impact to the environment. According to Paul Brunner, faculty technical director and head of the Theatre Technology program at Indiana University:

> Wood's greatest sustainable attribute is that it is the only construction material in wide use today which can be regrown. I think we overlook this important point. We can literally grow construction material in trees. When cut down and only when cut down, carbon is isolated within the tree fibers and locked away, known as carbon sequestering. Those trees are then replaced with seedlings, and those young trees grow faster than old-growth trees. Faster growing trees equals more carbon dioxide absorbed. That's a win-win situation. (Jones, 2014:95)

Of course, the speed of renewability of lumber depends on the species of tree, the planting and forestation methods and quality, and the even the transportation utilized. Some trees, such as bamboo, have a notably higher rate of growth and have thus become a favorite of sustainability practitioners (Kim, Kim & Manandhar, 2019). Whilst some lumber, such as oak, cedar, pine, and spruce, may have a longer growth rate, but are hardier and preferred for various construction purposes.

As illustrated in the graphic below, unlike almost every other construction material, framing lumber (wood) actually has a negative net carbon value. It is the only material that can be planted and grown, and the only material to absorb carbon dioxide (through photosynthesis) as it matures. However, it is also necessary to purchase wood carrying a symbol indicating it is from a forest managed with environmental concerns in mind. Each country has their own certification systems, and it is the responsibility of the set designer to research the most sustainable lumber providers.

Material		Net carbon emissions (kilogram carbon/ton)	Near-term net carbon emissions, including carbon storage within material (kilogram carbon/ton)
Framing lumber		33	–457
Brick		88	
Glass		154	
Steel	100% recycled	220	
	Virgin	694	
Concrete		265	
Aluminum	100% recycled	532	
	Virgin	4,352	

Table 1: Net carbon emissions
Graphic retrieved from https://www.buildinggreen.com/feature/engineering-wood-revolution

Wood remains the most popular selected construction material for theatre scenery. Some factors contributing to this are cost, familiarity, and tools. Lumber is cheaper to purchase than steel and aluminum. More designers, technicians, and carpenters are familiar with methods of constructing with lumber. And more shops are equipped with the tools necessary to work with lumber than with any other material. However, construction shops can make even better ecological choices in lumber material purchased and used.

As ecology and sustainability have come into more importance in the last decades, more scientists and engineers have sought out methods to make more efficient use of lumber. This has resulted in a family of wood products called engineered wood products. Engineered wood products take the essential element of wood, the fiber, and use it to fabricate a vast range of

products. Instead of being able to mill out just the basic framing, plywood, and lauan cuts, many of the engineered composites can utilize mill scraps, waste wood, and “trash trees” (tree species not usually considered for structural products). Engineered composites can utilize smaller and faster growing tree species. Using such a wider variety of tree species results in a more equitable and balanced impact on forests and tree farms.

A further look at the materials used in *100spaces* will be outlined in section on design. However, whilst still discussing ecology and ecologically-responsible practices in scenic design, here is a preliminary peek into those materials:
Pallets - wood, recycled, repurposed, very low monetary cost to production, delivered and returned to be reused (emissions costs)
Cable spools - wood, recycled, repurposed, no monetary cost to production, delivered and returned to be reused (emissions costs)
Children’s toys - mixed materials, re-purposed, no monetary cost to production, continued use in separate research
PEDA directors’ debris finds - mixed materials, no monetary cost to production, some with continued use in separate research
Materials found in the Theatre Academy scene shop - mixed materials, mainly wood, no added monetary costs to production, some returned to be reused, some donated to other artists for future projects.

Not only is it necessary for productions to start utilizing sustainable methods, it is vital for audiences, especially children, to see how objects can be used in manners for which they were not originally constructed. With creativity, an object can have and take many shapes and uses. Whether that object be a pallet used to move heavy boxes, and is now utilized as a solid, static picture frame through which to see a world beyond. Or the object is a flimsy plastic shopping bag, once used for groceries, but now a part of a colorful dome, “breathing” as the storytellers manipulate it above a small crowd of mesmerized spectators. These objects have lives beyond their initial purpose, and children and adults should be privy to witness the growing evolution of the “after-use”.

Sustainability is not a foreign discussion amongst the pedagogy programs. Over the years, much research has focused on educating young students how to reduce, reuse, and recycle.

However, there is only a limited amount of research done into the value of integrating reduce, reuse, and recycle into the physical playground of those children. Due to budget restrictions and lack of original creativity, many tire swings and tire dragons have been erected on playgrounds. As creative as these may be, they are just elements with an ambiguous connection to the children who play on them. A tire dragon does not educate a child about their connection with the Earth. However, a production with a tire dragon can use multiple effects to communicate multiple stories and ideas. Thus, a tire dragon on a playground will be a static play element until a production brings it to life. At that moment, it has become a scenic element, a tool for education, and a springboard for students' imaginations for an "after-use".

In parallel, a tire dragon constructed for an indoor or outdoor theatre production is just a scenic element without the addition of the production. The production is the communicator and educator. So, much like in recycling, there is a cycle of use between educator, designer/maker, and object. Each separate object connects with the other to make a larger, unified idea.

As educational facilities are regularly burdened with economic bottom lines (single bottom line business structure), the responsibility of making sustainable choices often falls to the individual educators and student orgnizations. However, educational programs seldom concentrate on just the economical aspects. Being educators, these programs are also responsible for teaching and molding societal aspects. And as there is an increasing need to educate students and people in general about ecological factors, that puts educational facilities into the Triple Bottom Line business model. As Ellen E. Jones reminds us, the Triple Bottom Line refers to the way an organization responds on three levels: Environment (Planet), Economy (Profit), and Society (People). All three must be invested and intersecting in order to make a true difference.

> A cohesive plan with specific objectives and identified strategies to meet those goals will create a sustainability initiative that has a lasting impact and is more likely to increase the Triple Bottom Line for the organization. (Jones, 2014:8)

So, what could have been done better, ecologically and especially in terms of the pedagogy program, with the *100spaces* project? For starters, more time should have been allocated for discussion between the PEDA directors, the teachers, and the set designer; more time apportioned for sharing and growing ideas between each team and the set and costume designers;

more time with the model to structure the PEDA directors ideas around the concrete set de sign and what parts fed their imaginations; more time to discuss a partnership in sustainability practices and what each element would teach to the audience members entering the spaces; more time rehearsing in the spaces; more time to let the spaces come alive for each PEDA team; and more time to debate and deliberate the necessity of sustainable practices in education, and their effect on future generations. While this can surely be done in a blank room, a blank room is not necessarily the most dynamic springboard for ideas in children, nor in adults. If more set designers are are allowed to merge their expansive, movement-oriented ideas with PEDA directors' education-oriented ideas, the result is teaching to a greater effect, no matter what the subject may be. And if this is done with sustainability in focus, the impact is bound to be more substantial than what the parties could accomplish on their own.

> In every deliberation, we must consider the impact of our decision on the next seven generations. - Great Law of the Hau de no say nee, Iroquois Nation, n.d.

Interior of the Circle, using recycled materials for base.

COMPONENT 3

LITERATURE REVIEW

PEDAGOGY

"I hear and I forget. I see and I remember. I do and I understand."

Confucius (Xunzi, circa 818 AD)

"Pedagogy" is not necessarily a familiar term for theatre professionals, especially for those whose education has been based in performance or design. Unless a theatre professional is employed within the scholastic setting, rarely do the terms "pedagogy" and "pedagogue" unintentionally cross their path. However, as theatre pedagogues well know, the practices for theatre professionals and pedagogues are quite inter-related.

When researching theatre or dance pedagogy, it is rather easy to find research and articles on how these subjects should be taught at university level, meaning how to perform and how to dance. However, it is quite different when trying to research how to use theatre and dance as pedagogical tools for learning.

Theatre pedagogy has been a topic of research for decades. However, it seems almost an umbrella term, for the scope includes anything where theatrical components are used for learning. The research shows the tenets of theatre pedagogy reaching and utilizing rhizomatic connections anywhere from political unrest to linguistics, playing with risk, causality, to laboratory theatre. Theatre

pedagogy covers a wide array of ideas and methods, and uses the time-tested components of theatre to open new avenues for learning and research.

Dance pedagogy, on the other hand, is quite new and illusive as a research topic. Unless concentrating on specific concepts, such as dance therapy or the somatic approach, research into dance pedagogy, on the whole, draws much of its inspiration from the same elements as theatre pedagogy. The shared interests in social welfare, community and participatory art, mental and physical health, creative problem solving, and education are evident not so much in the research documents, but in the programs and productions themselves.

Theatre Pedagogy, a brief overview

Theatre pedagogy, as a field of practice, rose into being during the 20th century, with the aid of such pedagogues as Hans-Wolfgang Nickel (Berlin Stage Designers, Berlin School of Education), Hans Martin Ritter (gestural speaking in drama education), and Augusto Boal (Theatre of the Oppressed et al). It evolved independently from drama education. In drama education, the teacher usually teaches performance process, whereas theatre pedagogy combines language learning and social awareness through art and education. Theatre pedagogy is based on drama and stagecraft, but aims to teach people beyond the scope of theatre itself.

Akin to immersive theatre professionals, practitioners of theatre pedagogy work within a situation-oriented academic scheme, frequently utilizing theatre as a means to realize an objective. By developing various forms of communication language (including non-verbal and non-written), sharpening dramatic abilities and theatrical vocabulary, and using collective activity to surmount obstacles in communities, theatre pedagogy assists to access participants' personal ideas and motivations, and expands the means of communication and interaction between the self and the community and environment. Through the use of inflection, presence, facial and corporeal expression, participants onstage are able to examine performative conditions created by the dramatic stresses and stressors of the daily life. As a result of these physical and psyche-affected mock-ups, actual situations can more apparently articulate themselves.

When reviewing the works of Nickel, Ritter, and Boal, familiar theatre names appear in the texts. The three pedagogues credit thespians such as Bertolt Brecht, Konstantin Stanislavski,

Anton Chekhov, Michael Chekhov, and Antonin Artaud as inspiration for various aspects of their work. In *Lehrstücke*, meaning learning plays, Bertolt Brecht presents self-reflexive learning conditions, while at the same time stressing the conceptual foundation for pedagogical and meta-pedagogical practices. As pointed out by theatre history professor Freddie Rokem:

> Brecht's dramatic writings often show situations of interrogation and acquisition of knowledge while at the same time exposing their own aesthetic practices as a method for gaining new knowledge about what 'needs' to be 'learned', as well as the process of learning itself- in short, they can teach us how to learn. (Rokem, 2015:57)

Brecht's learning plays also focus on the principles of logic, causality, context, and postponed or delayed cathartic effect. Rokem further specifies "obsession with argumentation" as one of the characteristic features of the Lehrstücke. As the characters continually explore the legitimacy of logical reasoning and its consequences (Rokem, 2015), they also question the principled or moral manner of the characters who pose the arguments. Their acts are frequently replicated or re-enacted by the same characters who witnessed the events to sharpen this critical mindset, questioning whether their past conduct was moral or immoral, just or unjust. The characters are given an another chance to ponder the moral effectiveness of their behavior and actions. Whereas Brecht's plays concentrate on the moral or immoral effectiveness of the behavior of characters, contemporary pedagogues, especially teachers of younger children, are leading discourse addressing similar themes but employing tools of pretend play, divergent thinking, emotion regulation, and executive functioning involving the children directly.

Theatre pedagogy stands in a unique position, providing play areas to allow children the ability to discuss and analyze what can be complicated and abstract concepts for them. The children are free to embody and express their emotions and thoughts, evaluate the facts, confront moral dilemmas and make informed choices, cultivate empathy, and to get to know themselves and others better.

The main purpose of theatre pedagogy is to generate change in comprehending the surrounding world. Theatre pedagogy includes developing language in all its forms, developing theatrical competence and vocabulary, and using collective process to combat issues in the community. It strives to enhance forms of communication to assist in human interaction, guiding participants

in evaluation of self, peers, and communities. As theatre pedagogy is rooted in conventional education methods and those of theater, the reaches of theatre pedagogy is rhizomatic within a multitude of sectors, such as hospital and prison systems, theatrical and conventional education systems, theatre professionals and audiences to develop contact, and job training sectors to educate the participants in public and motivational speaking, and body language.

> The power of theatre pedagogy lies in the potential it generates for activating sensory impulses through scenery, symbolism, metaphor, hypothetical if, and intonation. Activating sensory impulses, however, makes players aware of their expressive means, which are subsequently developed to potentially generate multi-sensory expressions and representations. Becoming aware of, visualizing and symbolically presenting contradictions within a safe setting enables players to freely put forward and try out their own solution proposals. (Giotaki & Lenakakis, 2016:324)

In contemporary discussions on learning methods to physically explore and emotionally manage the causality of behavioral choices, discussion has been developing amongst pedagogues and pedological scholars on the balance between assuring safety of children at play and emboldening play in physically and emotionally stimulating and demanding environments. Current focus of interest in children's education is the right to engage in what has been termed as *Risky Play*. In short, Risky Play includes playing with heights, speeds, harmful tools, dangerous elements, rough play, and playing where one can "disappear" / get lost." (Sandseter, 2007).

Given that the elements of Risky Play had sizable influence on the design choices for *100spaces*, details on the specific elements and effects of Risky Play are explored further in section on Design (Pages 67-68).

Dance Pedagogy, a brief overview

Just as theatre pedagogy utilizes various methods to address both psychological and physical parts of the student, so does dance pedagogy. The methods may differ, but the goals appear quite similar. However, one method or idea of interest covered in dance pedagogy research, but not in theatre pedagogy, is the somatic approach. In theatre pedagogy research, much is discussed about corporeal movement or motion, in general. However, the term "somatic" seems

to be adopted by the dance pedagogy researchers and professionals alone.

The concept of the somatic approach is to guide practitioners to their bodies and to enhance their awareness of their own specific qualities and features (Sööt & Viskus, 2013). The somatic approach lacks quantitative structure and criterion to follow. It must be the consequence of individual perception of the location a movement initiates or ends or the impact it brings. In addition, the somatic approach reassures the student will not cause injury upon themselves through activity, whether wittingly or unwittingly. The goal is to heal and cultivate the body. Whereas dance is primarily a physical and artistic discipline, the somatic approach emphasizes the psychological or cognitive part of the physicality of dance. It is the job of the teacher to embolden students to derive from within their bodies and promote their own special attributes.

> It is applied to a movement context to articulate the dance teachers' desire for children to be able to interpret and create using their own bodily movement, and that of others (comparable to the notions of reading and writing using verbally- based languages). This movement literacy was grounded in being able to 'sense' movement from within; developing to 'thinking physically' as part of a 'connected thinking body–mind; to moving with 'whole self awareness'. This was coupled with an emphasis on reciprocity. (Chappell, 2007:6)

This emphasis on somatic reciprocity with movement and motion is seen throughout dance and dance pedagogy research. As response to motion and movement was an integral part of the research for *100spaces*, research into somatic approach and reciprocity ran in parallel with the overall studies in motion.

Combined Pedagogy and the learning environment, a brief overview

> There are three teachers of children: adults, other children, and their physical environment. (Loris Malaguzzi, n.d.)

Whilst there are numerous educational programs and design companies eschewing the importance of design in the educational setting, none has been quite as integrative of the environment as the Reggio Emilia Approach. According to Loris Malaguzzi, founder of the Reggio

Emelia Approach, the environment is, indeed, the third teacher. In the Reggio Emilia approach, the first teachers are adults, second teachers are other children, and the third teacher is the environment. Students are encouraged to discover and learn through independent, self-guided interaction, whilst teachers learn from what they observe. Rather than directly transmitting knowledge, teachers employ their skills in child psychology, and go together with the children, their parents, and their environment, on an exploration of shared self-discovery. The physical environment is noted as a vital and indispensable component of the education and learning process.

> We place enormous value on the role of the environment as a motivating and animating force in creating spaces for relations, options and emotional and cognitive situations that produce a sense of well-being and security. (Loris Malaguzzi, n.d.)

Too often when thinking of the environment, the focus becomes about what is seen. However, the environment is only partly about the visual. It is physical in most aspects, but psychological in even more. The environment can be immersive, interactive, relational, prevocational, tantalizing, inviting, off-putting, imaginative. It can invite, hamper, or promote interaction. Depending on the perspective of the participant, the environment can elicit any number of responses, whether physical and/or psychological. The environment can be a powerful tool is the education of students (Ellis, 2004).

According to professors Teresa Strong-Wilson and Julia Ellis, there are eight Reggio key conventions to the environment acting as third teacher: "aesthetics, transparency, active learning, flexibility, collaboration, reciprocity, bringing the outdoors in, and relationships" (Ellis & Strong-Wilson, 2007:2). If applying these conventions to research on children and environ ment, it is notable the Reggio Emilia Approach draws an integral corollary between children's perceptions and their use of space to create meaning.

> Children love to create their own worlds at their own scale in any environment they can manipulate or modify. Young children also like novel objects to explore and interesting events to witness. What children also value most in favorite places are opportunities for social affiliation and creative exploration or self-development. (Ellis & Strong-Wilson, 2007:8)

How theatre and dance pedagogy connect with scenic design

In his report *On The Pedagogy of Theatre Design: A Critique of Practice*, Richard M. Isackes calls attention to the assumption "that the process of design is a fixed sequential progression: read the play, do research, develop a concept, do sketches, and devise a floorpan. Further it assumes that the sequence must always originate from the script, and that visual organization should be privileged over architectural function." (Isackes, 2008). It is the process that has been passed down from educator to practicer to educator for as long as universities have offered programs in scenography or set design. This order of sequential progression offers a structure, thus making it appealing and almost quantifiable for educational purposes. It is still utilized in the vast majority of conventional theatre productions and the larger theatre houses around the world. And since it is utilized in the larger theatre houses, where the majority of set design students hope to earn a living, it is, henceforth, a financially responsible method of operation to learn. Thus, because of familiarity and even future financial aspects, it is the method most universities teach to their design students, whether their focus be in set, costume, or lighting.

However, the fixed sequential progression for the process of design is not always the method of production with the less conventional productions, nor with those utilizing circus, dance, improvisation, interactivity, performance art, or immersion, for example. For a theatre designer to gain knowledge in how to design for these types of productions, the designer must become an autodidact of sorts, and learn on the job, for every project will behave differently. On some projects, the designers may be working off of an outline instead of a script. On some the floor plan may have to come first to accommodate apparatuses or whatnot. And some projects, such as *100spaces*, may forego the scripts, research, and concepts, and the designer will have to in stead rely on years of personal working experience to mould a concept and a floorplan.

Adolphe Appia, the noted Swiss scenic and lighting designer for many of Wagner's operas, was instrumental in unifying the work and the aesthetic of the director and the designer. He eschewed the use of two-dimensional scenery onstage, and instead utilized three-dimensional setting and variants in light intensity and color to create a perspective priorly unseen onstage. This was revolutionary on many fronts, especially considering the use of electricity was just at its infancy, and two-dimensional scenery with false perspective was the standard in theatre houses at this time.

In 1906, Appia and composer and pedagogue Émile Jaques-Dalcroze began to work with "Eurythmics" and "rhythmic spaces" to unite all elements of dance and opera through rhythm. This collaboration "introduced us to the specific and intimate relationships existing between the arts of time (music, speech, etc.) and those of space (scenery, lighting, etc.) through the presence of the human body and its movement existing in time andspace. Moreover, it has opened a new era of economical use of space, time, material and, above all, the flexibility of the theatrical system." (Abdel-Latif, 1988:1)

Eurhythmics, according to Jaques-Dalcroze, is the product of personal, fundamental, and near perfect collaboration between music and rhythm, thought of as movement, developing and evolving in time and space. Dalcroze supposed the prime instrument to be trained in music must be the human body. In his pedagogical approach, designated Dalcroze Eurhythmics, motion and movement must be utilized to learn and experience music. The Dalcroze method consists of three essential elements: eurhythmics, solfège, and improvisation (Abdel-Latif, 1988). In unison, these three elements encompass the tools necessary for the training of a complete, absolute musician. If consummated properly, abilities garnered from the three elements would fuse, resulting in a pedagogy based on creativity and movement.

Rhythmic spaces, according to designer Appia, are made up of a series of design projects initiated by Jaques-Dalcroze for his eurhythmics and destined to conceive a style appropriate for establishing the value of the human body and its rhythmic motion ruled by music. These designs, based on three-dimensional geometric shapes, articulate their rhythmic values via basic, natural relations and proportions, and light and shadow to complement a distinct musical rhythm (Abdel-Latif, 1988).

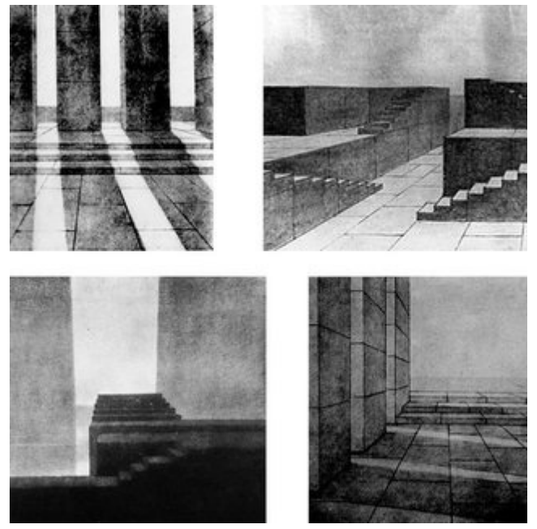


Fig. 2: Adolphe Appia: study in rhythmic spaces, c.1913

As eurhythmics was constructed to develop students' abilities to react physically to the perception of musical rhythm, Appia's rhythmic spaces were designed and constructed to set unambiguous proportions, in a performance space. These sets were created with the measurements of the human body and its various movements in mind. According to Appia, two planes can be distinguished within rhythmic spaces:

> The first is intended for movement, the other serves to heighten the general effect of the body. Therefore, it is necessary that both planes express weight and stability in their structure and appearance. They must also oppose the human body either through straight lines or sharply defined angles offering resistance through the impression of the solidity and power which they give. (Abdel-Latif, 1988:4)

In today's standards, foregoing the conventional process of design is not a novel idea. There are numerous practices in theatre that require multiple levels of response, activity, involvement, and organization from the designer. One such practice is that taken on by theatre laboratories. Theatre laboratories rely, epistemologically and ontologically, on research. Their goal is not a final production made for audiences, but the process itself, sometimes viewed by audiences, sometimes not. There exists no fixed definition for laboratory theatre. However, research and experimentation are at the core. According to Tatiana Chemi, theatre laboratories harbor a safeguarded space and time in which ensembles may focus on conducting continuing research into pedagogical, cultural, artistic, or simply research-related themes. Science and pedagogy are keywords that imply both the analytical methods and the materials of interest of theatre laboratories (Chemi, 2018).

In addition to research, all laboratory theaters have been interested in pedagogy, and quite often also in pedagogical applications. This may be due to the connection between research and collaborative work formations. Actors rely heavily on other actors for emergence of novel ideas and differing approaches and methods. Thus, the use of pedagogical approaches is integral to the creativity of the collaboration.

> Collaborative artistry will be judged on the seamless integration of the physical score with the architecture. (Isackes, 2008:51)

How a background in set design relates with those of pedagogy

> Creative thinking involves imagining things in a new light, digging below the surface to find previously undetected patterns, and finding connections among unrelated phenomena. (Von Oech, 2001)

Some designers, such as myself, spent quite a bit of our higher education studies as actors. As such, we studied the dramatic rivalry and narrative framework of classical Greek tragedies, the tenets of the Theatre of the Oppressed, and the Brechtian ideas of Lehrstücke and Epic Theatre. We dissected Grotowski and Stanislavski's methods of being, acting, reacting, learning, and teaching, and how to utilize intuition as a cognitive tool. We researched embodiment, sensorial management, intuition, levels of emotion, conscientiousness, and working toward a unified concept. We dove into movement, rhythmic modulation, motion of the body in reference to other bodies and symbiosis. We learned to experiment with the human body as an element and to question what it means to be human. We yearned to become flexible and adaptable, and to forge a "toolbox of paradoxical thinking as creative propulsion." (Chemi, 2018:31).

For those scenic designers who began their studies directly in design, their education also consisted of most of the above. Additionally, they received even more concentration on approaches in collaborative process, conceptualization, dramaturgy, drafting, color theory, material research and usage, audience interaction, stagecraft, and much more (Plan of Study, n.d.). And although their education into the actual practice of design in all probability consisted of projects done in fixed sequential progression, much of their curriculum still centered on concepts quite familiar to the students of theatre, dance, and pedagogy.

In *De-signing for a Dancer/Choreographer's Visual Literacy*, Helene Gee Markstein discusses three workshop projects in which the scenography was done prior to the entrance of the choreographer or dancer. The workshops were designed to flip the common structure of design-follows-choreography, and instead provide the dancers all the visual and aural stimuli at the beginning of the workshops. The visual and aural stimuli would act as the stimulant for the choreographic process.

> (This method) alerted the dancer/choreographer to the commonalities in composition arising through the elements and principles of design, including form, shape, line, space, mass, colour, unity, movement, texture, rhythm, direction, etc. (Markstein, 2014:3)

The process was fluid, in that allowances were made for changes in objects, scenography, musicians, score, cosumes, lighting, etc. In the end of the workshop, what arose were abstract, explorative, layered compositions taking advantage of the time for development. The outcome displayed the creative evolution and the collaborative methods apparent in the working process (Markstein, 2014).

Personal requirements of a set designer include not just creativity and artistic flair, but the ability to combine practical and artistic skills, and to communicate well with familiar and unfamiliar people of all walks of life. Scenic designers must be able to work flexibly within a variety of settings, from large theatre houses to warehouses to hospital wards. They/we must be able to handle changing conditions, ideas, teams, and concepts. They/we must be able to take loose idea fragments and combine them into a feasible, physical embodiment of a unified idea. They/we must be able to consciously understand their/our part in the production, whether it be to separate or attach our own being from the overall concept of the production. And we/they must be able to do this depending on the distinct needs of each and every production. Scenic designers must be present and able to understand the prevalent emotions and thoughts of the people in the room. In short, no matter the circumstance, they/we must be able to "read the room".

With *100spaces*, all designers and directors entered the project with their own toolboxes of honed skills, ready to tackle the sizeable project at hand. However, as skilled as all colleagues were, not enough time was allotted explore each others' toolboxes. On one side is a scenic designer with 20 years of experience in the field and a bakground of acting and dance, and on the other side is a conglomerate of talented dance and theatre pedagogues, each with own special background. Yet, what lacked was time. Without ample time to contemplate ideas, to create concepts, and to workshop those ideas, the creative process has no time to mature into concrete concepts. As in the case of *100spaces*, when scenography is introduced prior to the dramaturgical process, and not given the opportunity to percolate, the product remains raw. This will be discussed further in Conclusions: Discussion and Analysis.

It is the supreme art of the teacher to awaken joy in creative expression and knowledge.
– Albert Einstein, n.d.

Participants drawing atop the (Low) Pyramid with dance pedagogue Georie Goater (center).

Constructing the scenic elements in model pieces

Layout of the scenic elements in model pieces

DESIGN

DESIGN & METHODS

"I could be bounded in a nutshell and count myself a king of infinite space."
William Shakespeare, *Hamlet*, *circa 1600*

The word *idea* has its etymological roots in ancient Greece. It comes from the word *ἰδεῖν* (idein), meaning not to think, but to see; to conjure or visualize a mental image or picture; to use one's imagination to form the look of an object or element. So, like Hamlet, if we are to imagine ourselves in a particular space, we are at once transported there. Thus, the most accessible playspace is located between our ears, in our imaginations. The imagination is where ideas are born before any semblance of thought can occur. First, we have an idea. Second, we have a thought. Simply put, we must have an idea before we can have a thought.

Taking that sequence of events into consideration, it is the sole responsibility of the set designer to instigate and burgeon ideas in the audience's mind/consciousness before any performers can begin to mold and shape the thoughts of the audience.

> Space - whether a suspended pause, a blank area, an empty room or a limitless cosmos - performs... It is the fundamental immaterial-material utilized by designers creating sites for theatrical performance. Space is the stuff of architects (who construct it) and scenographers (who abstract it), experienced by inhabitants (immersed within it). (Hannah, 2011:54)

What is a set designer to do when tasked with the responsibility to create a space out of a blackbox that functions as not just an art installation but a performance space for various, diverse, and yet unknown productions and audiences? How can one formulate ideas without any concrete, established thoughts from those wishing to play in it? How is one to contemplate and conjure ideas when one does not yet know the audience age, abilities, and numbers, the concepts, the scripts, the budget, the workforce available, nor even the exact directors involved?

This is a frightful and intimidating scenario for even the most seasoned set designer.

And if it suits you, I will now switch the narrative to first-person. I am of the opinion that to discuss design aspects of a project in any other voice would be dissociative and impersonal.

One late afternoon, a few days after accepting the proposition to design for *100spaces*, I snuck into the black box theater, Teatterisali. I sat on the floor, in the dark, leaning against a wall, for what might have been a half hour or so, and just let the space be. I listened to the muffled sounds of goings-on outside of the closed doors, the faint humming of lighting that must have just been turned off, the soft clicking from an indiscriminate source, the ever-so-faint sounds of cars, perhaps larger trucks, as traffic hour was dawning, the thumping of my own heart as it seemed to get louder by the minute. Without making a conscious effort to do so, I let go of all while taking it all in.

By no means is it unusual for me to sit in an empty theatre, and just listen to what the space may have to express. I actually do it for just about every unfamiliar space I am asked to design. However, it seemed utterly important for this particular project, for I had absolutely nothing else to go on. Due to this lack of directives from other sources, Teatterisali became the
de facto muse. And this was indeed somewhat new to me. Very seldom does the space get to dictate all. Teatterisali became the muse for my ideas, to visualize the energy, movement, and essential nature of the space...and perhaps even some of its potential.

> Svoboda aimed to create 'psycho-plastic' space or 'transformable space that is maximally responsive to the ebb and flow, the psychic pulse of the dramatic action. (Burian, 1971 qtd. as cited in Kershaw & Nicholson, 2011:112)

All space is performative, whether passively or actively. With *100spaces*, I sought for the Teatterisali to become an active performer. Initially, my graduate thesis was to be about the molecular make-up of a performance space, and how to manipulate the energies to garner a specific physical or psychological reaction from audience members. I wanted to study the influence of scenic elements to motivate audience members to move a certain way or direction; to see how audience members might psychologically and introspectively apperceive the elements around them; to see what propels audiences to react definitively to their surroundings. I was interested in combining the physics theories of quantum entanglement and singularity with the ideas of Bruno Latour (especially, negotiating connections), autopoiesis, and structural coupling found in environments... among many other forms of interconnectedness...to identify how they are best employed in performance design.

However, as the *100spaces* project developed, it became difficult for me to ignore the issue, or actual opportunity, at hand: It is much more interesting to give audience members a jumping off point and study where they go from there. It is still a study of human behavior and movement involving scenic elements, but more improvisational and less scientific, per se. And seldom is a set designer presented with the opportunity to study such a vastly diverse gathering of theatre-goers: varying ages, abilities, interests, needs, wants. Changing my thesis concentration from a behind-the-scenes scientific study on movement to a reactionary and active push-off creator, was an important change of tactic...and one I would eagerly embrace and cultivate as the project progressed.

> Theatre is mainly in the performance; lovely sketches and renderings don't mean a thing, however impressive they may be; you can draw anything you like on a piece of paper, but what's important is the actualization. True scenography is what happens when the curtain opens and can't be judged in any other way. (Burian, 1971 qtd. as cited in Kershaw & Nicholson, 2011:112)

Scenographer Josef Svoboda was absolutely correct in his statement above. The most important part of a production is the actualization of it. It is my job as the set designer to give everyone an idea or concept of space, and thus the opportunity to use their own creativity and imagination to further transport them to places, emotions, and thoughts.

Design based on movement

> Ingres is said to have created an artistic order out of rest; I should like to create an order from feeling and, going still further, from motion. - Paul Klee, n.d.

Fig. 3: Wassily Kandinsky: Dance Curves with dancer Gret Palucca. Photographed by Charlotte Rudolph. 1926. A study of simplifying subject form. Part 1 of series.

As stated earlier, I began this project with a specific interest in mind: the movement of particles through a performance space. Although the scope for my thesis had changed, the initial designs for the scenic elements were born during the earlier phase, and continued to serve the intended purpose even after the change in scope. The elemental design was still all about movement through space: movement and motion.

Perhaps one of the nonpareil artists to show just how motion and movement can be explained through art was the painter and art theorist Wassily Kandinsky. Kandisky was a Russian-born artist who resided in Germany during the 1920s, teaching at the world-renowned Staatliches Bauhaus, commonly known as The Bauhaus, German school for craft and fine art. Kandinsky is principally famous for being one of the pioneers of abstract expressionism, and for likening painting to composing music. During his time at Bauhaus, Kandinsky developed theories on form, structure, line, color, shapes, including publishing two essays regarding his theories on form: *Dance Curves* and *Point And Line To Plane*.

In *Dance Curves*, Kandinsky combines four abstract drawings to four photographs of German modern dancer and teacher, Gret Palucca. The drawings depict the motion carried out by the dancer, in line and shape, thus abstracting an elementary two-dimensional form out of three-dimensional motion (Funkenstein, 2007).

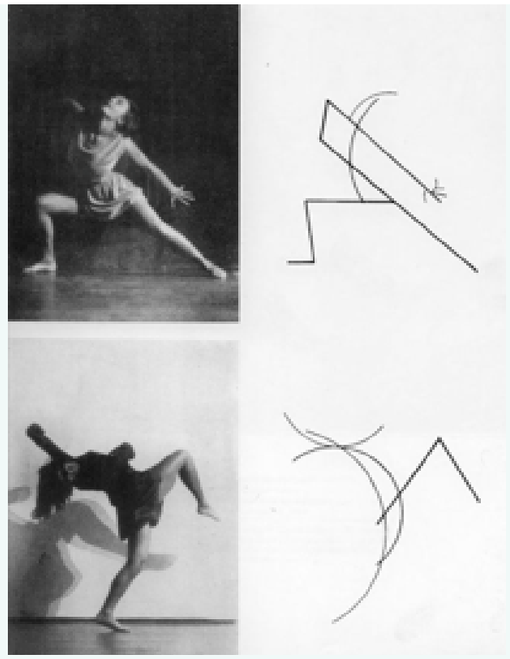
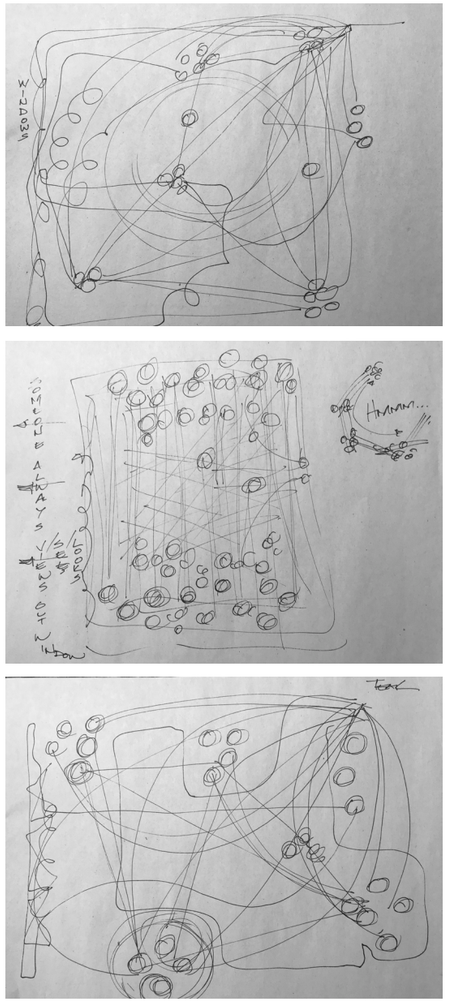


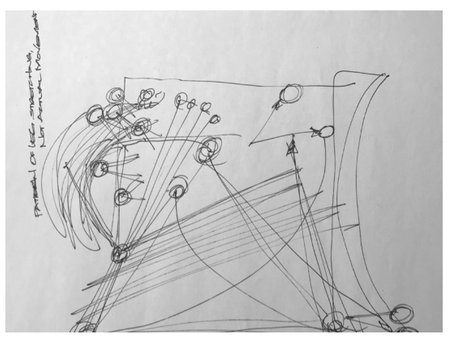
Fig. 4: Wassily Kandinsky: Dance Curves with dancer Gret Palucca. Photographed by Charlotte Rudolph. 1926 . A study of simplifying subject form. Part 2 of series.

Just weeks prior to taking on the project, I had attended a short class with the pedagogy students, who would become the directors of *100spaces*. The pedagogy students were in two groups, half in the theatre pedagogy program and half in the dance pedagogy program. Regardless of being in separate programs, they all showed some similarities. I had observed the warm-ups a number of the students executed prior to each class, some of the movements made when fidgeting during classes, and the manner in which they coalesced into smaller groups. Some of the motion was clearly made with a purpose in mind, and some I could ascertain was made quite on a subconscious level. At that time, I didn't realize just how influential this informal study in motion was to be on the design for *100spaces*.

During this course, we also made visits to the children's daycare centers. There, I espied the varying types of movement made by the young pupils, from erratic jumping from furniture to furniture to some sitting stationary to some pulling away into secluded areas. The wonderful part of observing the motion of children, is that their motion is seldom done consciously. It is a subconscious reaction made on an intuitive level, with less social influence than when they have become older. I was able to witness unfiltered cause and effect, to a certain degree. Whether the cause be excitement, boredom, attention-seeking,



Study in movement patterns of students in class.

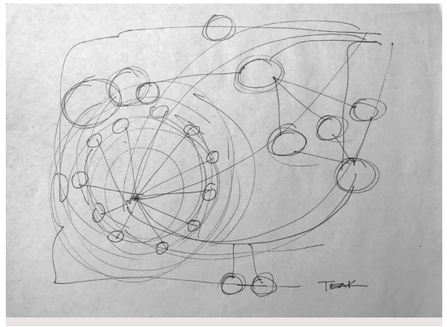


Study in movement patterns of children in daycare.

emotional change, whatnot, part of the effect could be detected by recognizing alterations in motion. And this cause and effect would repeat, as if in chain reactions; the "butterfly effect" within a limited space. I was utterly fascinated by this, and even scribbled the motions on some loose leaf papers (see images on previous page). But, again, I was not aware just how this observation and fascination would play in the near future, *in 100spaces*.

When I was approached about designing *100spaces*, and was given very little to go on, my thoughts returned to "motion", and what I had perceived in my short stint with the pedagogy students (student-directors by this time) and the children at the daycares. And although I do not necessarily see definite shapes in music like Kandinsky, I do possess synesthsia with shapes and motion. I see clear and precise shapes in motion, and invariably find this rather difficult to explain in concrete terms. As my mind sees it, motion is translated into multi-dimensional series of shapes, lines, forms, structures, textures, and colors. As motion is the movement of energy, it has no beginning nor end. It is an ever-evolving movement of energy and atoms in space. Motion facilitates an immediate cause and effect. Thus, it is giving us a continuously changing landscape of multi-dimensional shapes and forms. This is very convenient for a set designer.

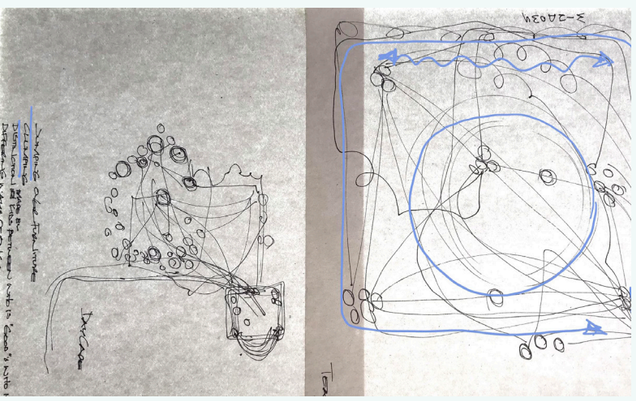
For the *100spaces* project, I drew quite a bit of influence from Kandinsky's works on canvas, notably those painted 1920-1940. Because I have trouble verbally demonstrating what my mind sees naturally, in this thesis, I rely on Kandinsky's visually intense works to explain balance, movement, and motion in static objects, and how the motion he expressed in certain paintings reflects the motion in the scenic elements I decided to put into action in the project.

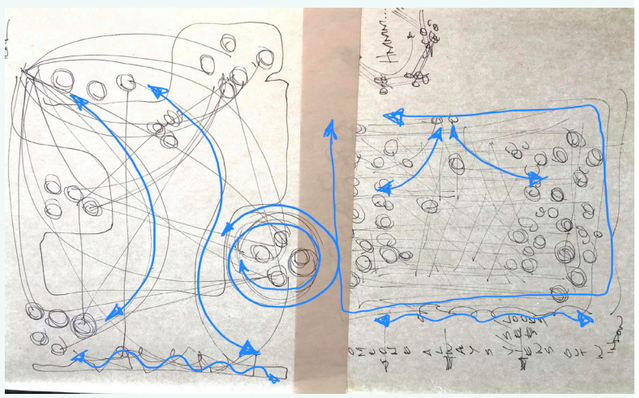


Study in movement patterns of students in class.

Fig. 5: Wassily Kandinsky: Several Circles. 1926

Fig. 6: Wassily Kandinsky: Cross The Line 1923





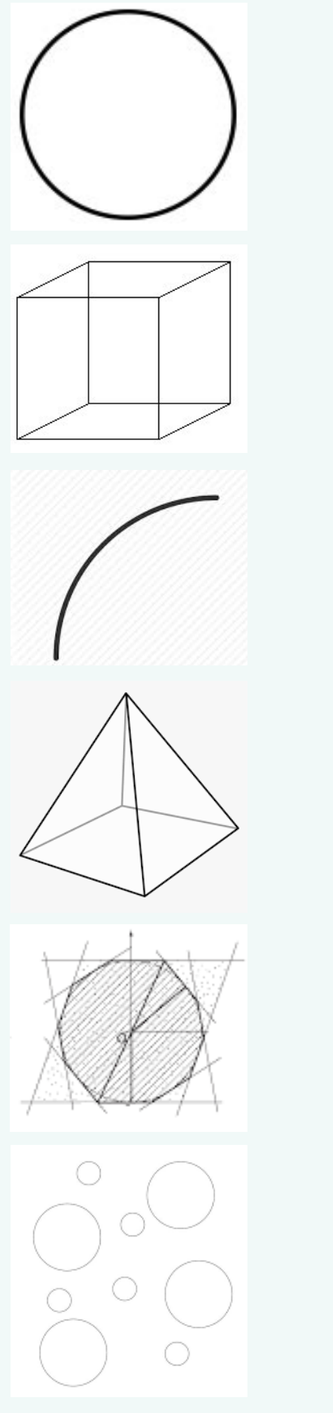
Photographing the light-table with all the sketches atop each other proved to be too much for my camera.

These images are with the motion patterns shown atop the original motion scribbles.

In order to extract a particular collection of shapes from the multitude of movements made by the dance pedagogy students and the daycare pupils, I had to throw all the ingredients into one giant kettle, in this case, all the shapes onto one larger canvas (light table). I needed to see which shapes repeated the most and which were of most interest in their reaction to another shape. Fortunately, I had done the majority of the doodles on tracing paper or very cheap drawing paper, and was able to place them atop each other on my light table. Although these scribbles were hardly on par with the works of Kandinsky, seeing them all simultaneously and collectively birthed beneficial insight into which shapes occurred most often, and which shapes offered the most intrigue for future exploration and impetus for further action.

Six shapes emerged from the rest: circle, square/cube, arc, pyramid, intersecting lines to form a shape, and a spattering of dots or small circles (see figures on right).

How could I utilize these shapes in a way that would cohesively form a catalyst for the directors and the audiences? How can I bring together all these shapes and stimulate directors and audience members to add their ideas? How can I construct a *Gesamtkunstwerk* that would in turn incite a Gesamtkunstwerk? How do I minimize the subject matter, and



The shapes that emerged from the chaos.

maximize the stimulant? And how can I do that whilst not knowing much about budgets and materials on hand, nor even ideas the directors were wanting to convey?

In his publications, Kandinsky analysed the geometrical elements which comprise a painting – the point and the line. The surface the artist worked on he called a plane. A point was a spot of color on the plane. A point can take any shape, whether a dot, a square, a star, whatnot. A shape in its basest form is a point. A group of points can form a line. And, according to the location of the point on the plane, it can resound or generate tension with other lines and points. Altering the size and position of a point can heavily affect the composition on the plane.

Kandinsky further iterated the line is a continuation of force applied to the plane, applied with a tool such as pencil, pen, or paintbrush (Funkenstein, 2007). This line can take multiple shapes: straight, angular, curved, etc. And, just like the single dot, these lines can generate tension or display space in their relation to other points and lines. A line is all about movement, and has the ability to lead somewhere, causing the eye to follow. The line has the power to direct the eye towards something or away from something.

Of course, this is all elementary to anyone who has studied art. After all, these three elements (dot, line, shape) constitute the very basis of design. They are the genesis of design, as they can create and spawn contrast and visual hierarchy, balance, and composition. One can generate tension between two objects by altering the scale and distance between the two. Simplicity of form being the key…. as well as the ideas of positive or negative space, or positive form and negative space.

So, how do I assemble these shapes to create a push and pull effect, visually and psychologically? Teatterisali is a rather oddly-shaped rectangle, with width of about 12.5M and length of 41.5M. Given my intentions and the space's dimensions, arranging the shapes (whatever size and material they would be) would prove to be quite challenging yet exceedingly stimulating.

My pondering led me back to my very ugly sketches of pedagogy students' and preschool students' movements. I noticed patterns of movement surrounding the circles, squares, etc. It was as if a cause and effect were already present in those scribblings. Fortunately, the paper it was all scribbled on was of rectangular shape. So, although the initial movement did not necessarily occur in a rectangular space, the location the doodles landed on the paper indicated a movement or motion pattern of sorts.

I then decided to cut the shapes out of paper and lay them onto the plane - the paper with the dimensions of the Teatterisali laid out. As I followed the motion AROUND the shapes, it became a choreography of sorts. As I positioned the shapes in various locations, I felt my body physically react and start to move in connection to where the motion of the shape led. And as this took place, I could "feel" myself in the space. Although confined in my studio, like Hamlet, I could feel myself the ruler of infinite space. So, although I was only moving around the worktable at my studio, I could feel myself as a member of the audience, seeing and feeling the space for the first time…. and I wanted up.

I wanted atop things. I wanted to see it all. I wanted to see what was to come. I wanted to see what had already come. I wanted depth. The hard flat floor of the Teatterisali was not enough. I needed height, and many variations of it … and I craved something that would physically push my own levels of comfort.

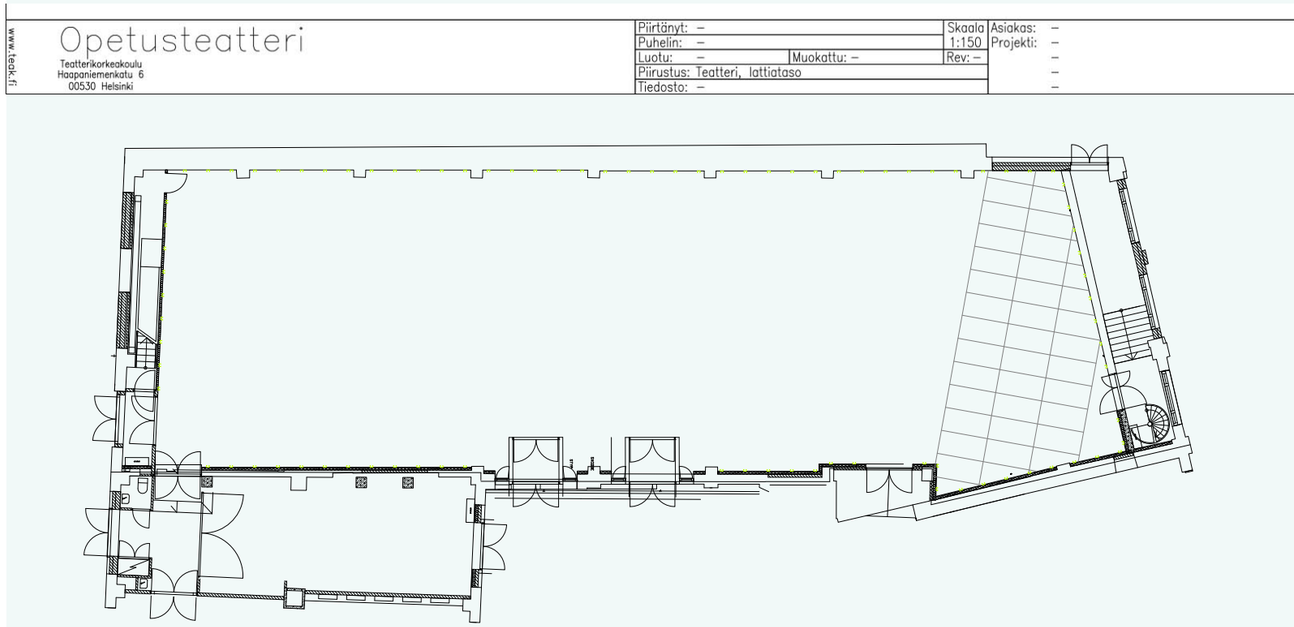


Fig. 7: Teatterisali floorplan

Design based on pedagogy

> I never teach my pupils, I only attempt to provide the conditions in which they can learn.. - Albert Einstein, n.d.

Given the history of Albert Einstein's own scholastic difficulties, he could have given great insight for those responsible for educational programs, had they been open to such introspection in his day. Unfortunately for him and many others who failed to learn by the standard methods of teaching, research into the conditions of a learning environment would not become a factor until long after his death.

After the conclusion of World War II, psychologist Loris Malaguzzi and parents in the Reggio Emilia area of Italy developed a new, progressive method of education. Amongst the main tenets practiced is the importance of environment. According to Malaguzzi and the Reggio Emilia approach, children have three teachers: the parents, the teachers, and the environment. Malaguzzi conceived that social learning preceded cognitive growth and development. He also asserted that the environment performs an essential part in the course of making learning essential. The environment encourages students to explore and discover on their own as educators and parents observe and chronicle the process. So crucial was this notion of environment, that Malaguzzi designated the environment as the third teacher. As translated by Carolyn Edwards in *The Hundred Languages of Children*, Loris Malaguzzi further declares the importance of venturing into the unknown:

> Creativity seems to emerge from multiple experiences, coupled with a well-supported development of personal resources, including a sense of freedom to venture beyond the known. (Edwards, 2012:51)

In pedagogical research, there is a type of play that has obtained great interest for the past three decades: *Risky Play*. Although no one seems aware of who exactly coined this definition of Risky Play, the commonly quoted definition is "thrilling and exciting forms of physical play that involve uncertainty and a risk of physical injury." As one may assume by that definition, some teachers and parents are wary of promoting risky play by name and definition alone. Nevertheless, an emerging number of researchers investigate facets of risk taking, including playful activities, delineating that the concept indicates a basic aspect of human life.

The concept of risky play has been and is currently investigated in a variety of countries, indicating multiple "cross-cultural commonalities of this type of play". (Sandseter, 2019).

Risky Play shares some traits or features with diverse play types included in earlier categorizations of play. For instance, risky play can include elements found in locomotor and physically active play, rough-and-tumble play, playing with objects, deep play - such as confronting risks and fears and integrating mortality, exploratory play - such as exploring the obscure and unrecognized, and mastery play - such as experimenting with own physical and metaphysical abilities (Sandseter, 2019).

Existing research also demonstrates that children between the age of one and six years all engross in Risky Play in some fashion, and on a level corresponding with their own personal capacity and fortitude - and yes, absolutely including children with differing abilities (Sandseter, 2011).

As noted by Ellen Beate Hansen Sandseter (Sandseter, 2007), eight categories of Risky Play have been identified through educational researchers' observations and interviews with children:

1) Play with great heights – The children face danger of injury from dropping or falling from heights, may it be from climbing, leaping, hanging/dangling, or balancing. From this, the children can gain a birds eye view of their surroundings and gain confidence in their visual and vestibular senses, and their ability to handle heights.

2) Play with high speed – The children engage in games with unrestrained speed or pace that can cause a collision with something or someone, for example swinging on vines or ropes, sliding on sleds, bicycling at high speeds, or even running uncontrollably to create the thrill of nearly losing control. This aids the child in understanding his or her own limits with vestibular sense, thus gaining confidence in setting boundaries for themselves.

3) Play with dangerous tools – The children encounter tools that can cause injuries, for instance drills, bows and arrows, blades, hammers, and ropes. There are, of course, cultural differences with what is deemed suitable for children to handle, for instance farmers with farm equipment. However, knowing that erring with the tool could lead to harm, children gain considerable satisfaction knowing they are trusted to control that powerful tool.

4) Play near dangerous elements – The children play on the periphery of danger, where they can fall from or into something, such as fire, waves, or mud slides. Playing near dangerous elements is another method for the children to learn their own boundaries, practicing the use of their own proprioceptive and synesthetic senses.

5) Rough-and-tumble play – Children play with one another in a way that could possibly

harm each other, for instance fencing with sticks, wrestling, and play-fighting. Typically, the one in the most vulnerable position is the one practicing this skill the most. The defensive position involves the most risk of being harmed and calls for more skills to overcome. Rough and tumble play is another method to exercise and sharpen the vestibular senses.

6) Play with disappearing and getting lost - Where children go exploring unsupervised or alone, for instance in fenceless areas, such as in the woods. With this type of play, the children experience the thrill of a temporary separation from their friends or teachers. While younger children can experience this with very short distances, older children will brave the new territories with imagined dangers. Both types of exploring will strengthen the children's sense of being able to maneuver their way back, as well as their confidence in overcoming future unfamiliar environments.

And two categories included in some academic and research-based lists, but not all:

7) Play with impact – Children repeatedly colliding with something or someone just mere enjoyment. This type of play is sometimes included in the category of playing with high speed.

8) Vicarious play – Children experiencing thrill by proxy, by observing other children, ofttimes older children, engaging in risky play or situations. (Sandseter, 2019; Gray, 2014)

In laboratory research, scientists have devised methods to dispossess young rats of the ability to play during the critical phase of development. They were given normal social experiences, but play was not permitted. The studies show the rats became emotionally disabled. When placed in a new environment, the non-play rats responded and overacted with fear, and neglected to acclimate and explore in same manner as their normal counterparts. When the non-play rats were introduced to an unfamiliar peer, they reacted with alternating freezing in fear and disproportionate and futile aggression. (Pellis & Pellis, 2011; LaFreniere, 2011)

> "We may observe an increased neuroticism or psychopathology in society if children are hindered from partaking in age adequate risky play." (Sandseter, 2011)

Discoveries, such as those made with the non-play rats, have contributed to the *Emotion Regulation* theory of play. Emotion Regulation theory states the one of the main functions of play is to educate young mammals methods to regulate fear and fury. During Risky Play, children administer to themselves controllable quantities of fear, and exercise self-control and adaptability whilst coping with the fear.

They learn they can, indeed, manage that fear and overcome it. During Risky Play, children may also experience anger, for example when one child accidentally hurts another. But in order to continue playing, they must learn to surmount that anger.

If they continue to let that anger turn to aggression, the play is bygone. Thus, in accordance with Emotion Regulation theory, children practicing Risky Play learn the confidence to control their own reactions to fear and anger, without surrendering to negative emotions when playing with others.

Children are remarkably driven to play in risky ways. However, they are also exceedingly conscious about understanding their own capacities and evading risks they are physically or emotionally ready to take. Rather than the adults who may compel or encourage them to take risks, children are a better gauge of what they are ready to undertake. Ignoring the objections of the child may actually result in trauma, not the intended thrill.

> Children know how to dose themselves with just the right amount of fear, for them, and for that knowledge to operate they must be in charge of their own play. (Grey, 2014)

It is difficult to determine whether Albert Einstein would have benefitted more from pedagogical changes due to Risky Play or Third Teacher approaches and concepts. One also cannot know if Einstein exercised much Risky Play in his youth. However, judging by his physics experiments and even social relationships later in life, one might argue he played abundantly with risky elements. Thus, it might be elementary to argue on behalf of the pedagogical factor of the Third Teacher: that Albert Einstein might have actually finished his schooling in Munich had the environment given him the needed stimulus for learning.

The aforementioned eight categories of Risky Play were decidedly instrumental in the design choices for *100spaces*. Although some of the scenic elements would later be slightly dampened by legalities in height regulations, the aim was to provide the student-directors inspiration for various intense Risky Play options, and the younger audience members with a number of Risky Play elements to test and push their personal boundaries. Being that the space would be open for anyone to enter at any time for 10 hours per day, the possibilities of what could be encountered, explored, and experienced were quite limitless, and sometimes most exhilarating when completely unsupervised.

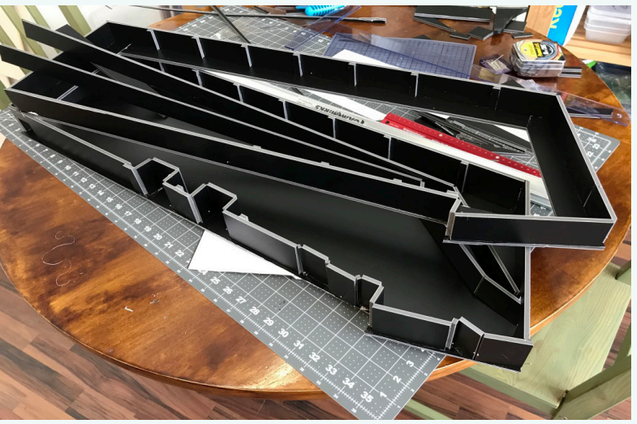
Merging movement and pedagogy

> As well as articulating 'the visual-spatial construct', scenography is concerned with 'the process of change and transformation. (Aronson, 2005 qtd. as cited in Kershaw & Nicholson, 2011:112)

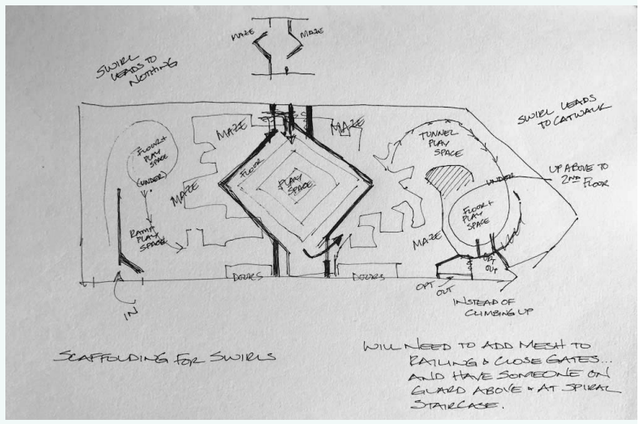
So, how does one set designer combine movement and motion, risky play, and environment into a cohesive immersive performance space, featuring scenic elements to ignite further motion and risky play? How does one design scenic elements accessible to supervised and unsupervised children and adults, and of all differing abilities? And, again, how does one design without knowledge of the budget and crew…and do it with sustainability in mind?

Taking into thoughts the teachings of Bertolt Brecht, Antonin Artaud, and especially Adolphe Appia, I knew the ideas would generate from motion itself. I must be flexible in my thoughts, actions, and decisions. I must be open to move around my studio to play with different effects. But most of all, I knew I must begin to build it - the theatre, the set, the pieces- in order to understand the space.

So, I built a model of the space….and just started playing.



Constructing the walls of the Teatterisali



Earliest doodles of the movement in space

As sustainability for *100spaces* was of high importance to me, I knew the materials chosen would have to be ecologically-responsible. I wanted this project to be just a part of the chain that material would go through in its lifetime. The material should have a life before *100spaces*, and a life after. And not only should the material be ecologically-responsible, it was necessary for it to be economically-responsible as well.

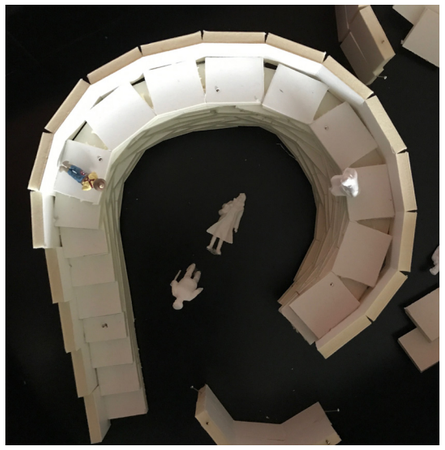
One of the most practical and ecologically-responsible materials to work with is the wooden pallet. In Finland, these can come in varied sizes, thicknesses, and strengths. For *100spaces*, I decided to utilize the EUR-lava, with dimensions of 800mm x 1200mm x 144mm, and weight capacity of 1000-1500kg (depending on weight distribution) . As I knew these pallets could be delivered and retrieved by the company that owns them, I tasked our wonderfully helpful production coordinator, Aapo Juusti, with finding a felicitous pallet-renting company. Within a few days time, he had found one company, J.Woltter Oy Kuormalavat, whose proposed services, selection, and price were unbeatable. Now, we just needed to calculate the number of pallets needed…starting with designing the scenic elements.

Fig. 8: Basic EUR pallet

Returning to the ideas of Kandinsky, my own scribbles on movement, and the need to gain some altitude in the space, I needed to design with versatility and 360 degree motion in mind, using pallets. Much like LEGO blocks, the uniform dimensions of the pallets were a convenient and dependable measurement upon which to base construction, even if the goal was to design a space with fluid movement in mind.

The Circle

Fig. 9: Wassily Kandinsky: Circles In A Circle. 1923



Playing with pallets, into a circular formation

The first element I played with was the Circle. I wanted to have at least three choices for placement of actors versus audience. Meaning, the directors could choose to place themselves on the floor, whilst the audience observed or participated from above, or vice versa. They had a choice of being outside or inside the circle, or somewhat atop the rim. Or they could opt to have complete physical immersivity by placing themselves amongst the audience in any realm.

It was extremely important for me to have the first element with a component of enclosure. In a space so cavernous at Teatterisali, it was essential for the Circle to give a sense of intimacy, of being able to insulate, at least mostly visibly, from the rest of the exhibit. And if a participant was placed on the outside of the Circle, they would be drawn in to view whatever action is taking place on the interior. Participants would be able to see through the element, whether the vision is of what is taking place inside the circle, the rest of the performance space, or perhaps objects placed inside the pallet walls.

Steps leading around the rim of the element would be incremental so participants would be able to choose their own level of comfort with height. Plywood would be set on top of the pallets to provide stable levels for standing and sitting. The upper decking would serve as an observation deck for what was to come in the space, as well as a viewing area for what was taking place inside the Circle.

Metaphysically, the Circle was to begin the spiraling of energies, singular or collective. Whether thinking of concentric circles, medicine wheels, crop circles, mandalas, or the numerous other meanings of a spherical shape, circles have been used in rituals and ceremonies since the very beginning of time. Although I was not interested in creating a scenic element for use in a ritualistic manner, I was interested in the use of the circle for the movement of energies. Thus, I played with an architectural pattern quite familiar to me: the Fibonacci circle.

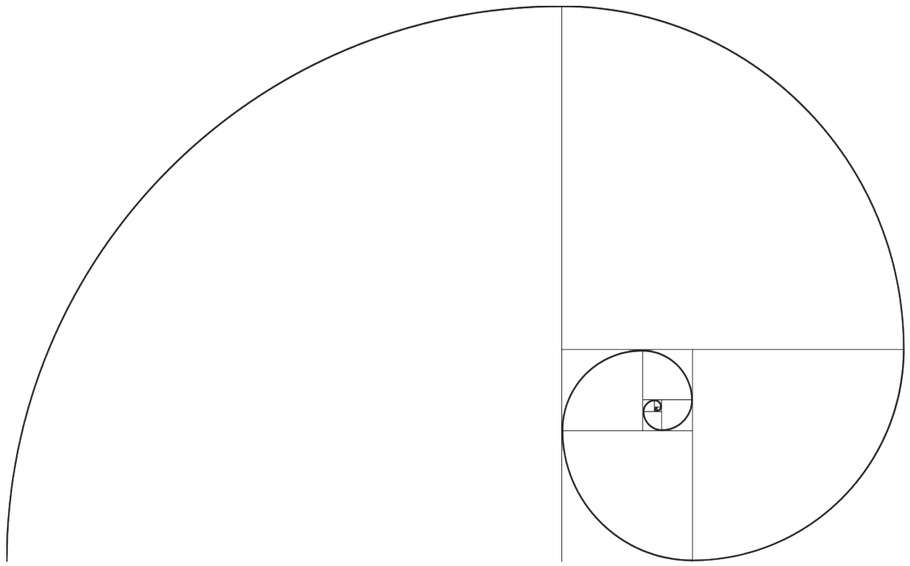


Fig. 10: Fibonacci Circle

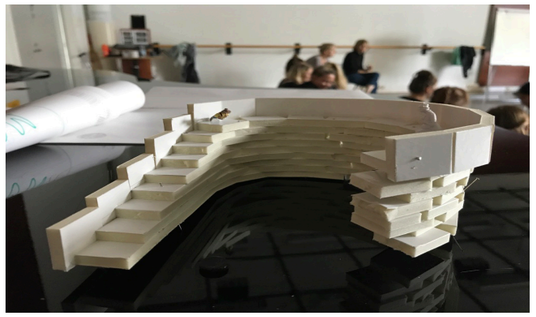
The Fibonacci Circle, also known as Fibonacci Spiral, Golden Circle is a sequence of numbers manifested in nature and art. Named after the man who first discovered the code, Leonardo “Fibonacci” Pisano, Fibonacci numbers are a sequence in which each term is the sum of the two numbers preceding that number. The ratio for this sequence is 1.618, sometimes referred to as the Divine Proportion or the Golden Ratio. According to Suditpta Sinha, assistant professor, Department of Mathematics Burdwan Raj College:

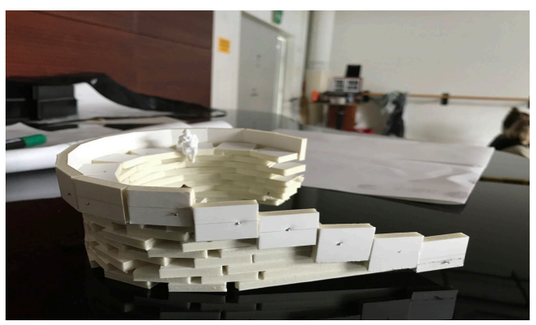
> The Fibonacci Numbers are defined by the recursive relation defined by the equations Fn = Fn-1 + Fn-2 for all n ≥ 3 where F1 = 1; F2 = 1 where Fn represents the nth Fibonacci number (n is called an index). The Fibonacci sequence can elaborately written as {1,1,2,3,5,8,13,21,34,55,89,144,233……}. (Sinha, 2017:9)

Fibonacci sequences can be observed in various locales. For example, in nature the pattern can be found in the number of petals on flowers, the shell of the Ammonite Trilobite, the flowering of an artichoke, and on pine cone bracts. The Fibonacci sequence can be observed in art, in such works as Leonardo DaVinci's *Mona Lisa*, Hokusai's *The Great Wave off Kanagawa*, and Johannes Vermeer's *The Girl With The Pearl Earring*. It is also found in architecture, in such familiar places as the Great Pyramid in Egypt, the Parthenon in Greece, and the basilica La Sagrada Familia in Spain. And it has also been used in music for hundreds of years, especially in Western harmony and musical scales, and even the Stradivarius violin.

In scenographic context, the Fibonacci Circle has numerous uses, from metaphysics to art to architecture. Having decided on the use of pallets as my main material, I began playing with shaping the pallets into a Fibonacci circle. To be clear, I did not intend to construct the interior parts of the Fibonacci Circle using the pallets, only the exterior of the circle. My intention was to research if participants would subconsciously follow the invisible line to turn themselves in circles, to complete the Fibonacci Circle. It would be a backwards Fibonacci Circle of energy and motion.

However, due to the width constraints of the Teatterisali, I was forced to squeeze the Fibonacci Circle into a more circular shape. Thus, what was to be a Fibonacci Circle became more like a regular circle....and I quite liked the idea of that. I returned to the initial idea of a circle, and assembled the (model) pallets into the new Circle.





Close-up of the Circle in model form

Counting the number of pallets per level of construction.

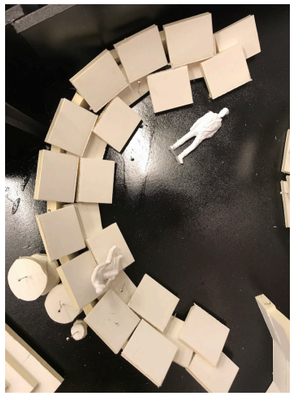
Construction of the first element, the Circle Pictured: Erkki Kähkönen, our fearless head of construction

The Circle, with addition of plywood lidding and safety rails. The orange cable spool was only there to deter folks from running up the steps while still being constructed.

Group C inspecting the Circle

The Arc

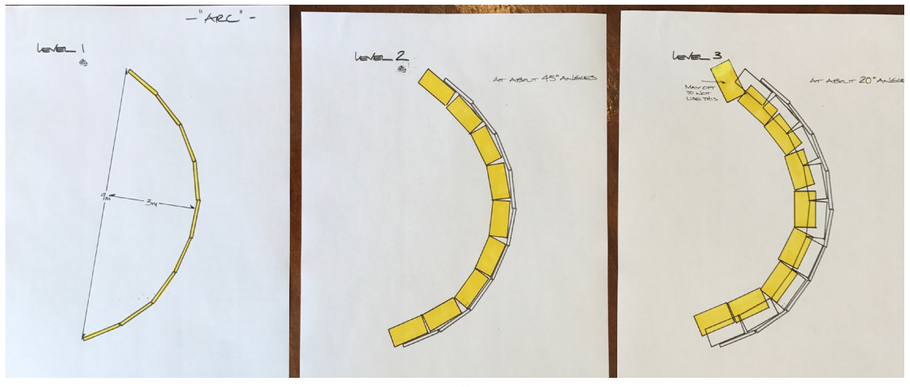
Fig. 11: Wassily Kandinsky: Dominant Curve. 1936



Playing with pallets, into an arc

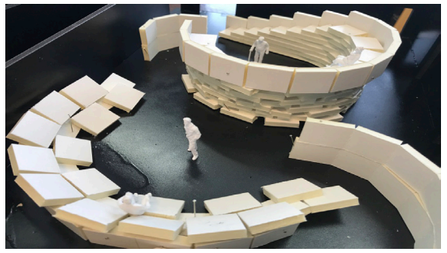
It was important for me to keep the flow and motion from the Circle element and use it to generate motion for what would become the second element: The Arc. As if there would be an energy wound up, counterclockwise whirling around the Circle, the Arc would become its release point. The energies would be released over the edge, wavelike, and scattered toward the consequent playspace. Again, it would be the choice of the director where to place the audience, on the floor or on or behind the element, and whether to use the coterminous scenic elements as the backdrop.

What eventually turned out to be one of the most complex elements to construct, the Arc was to act as a catalyst for self-igniting energy. I wanted to give the participants the opportunity to experience a differing effect of gravity by running an arc, and perhaps leaping off, so as to feel the burst of energy gathered by these motions. If the participants were to run the arc at higher speeds, and if this was a study in mathematics, we could discuss changes in velocity, acceleration, and even momentum. In physics, we could even add friction and centripetal force. However, in more theatrical and pedagogical terms, the arc was to give a curving area of rest or congregation, or an angled and rounded stage for performers. Unlike the Circle before it, the Arc was open and accessible from all around, and provided seating at an angle.

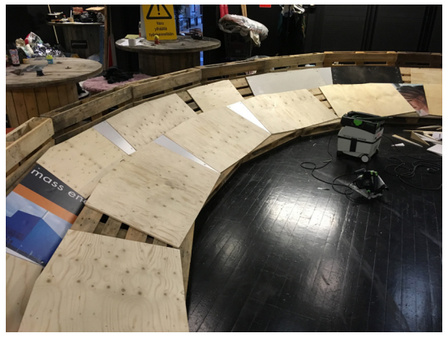


Counting the number of pallets per level of construction.

The arc would become one of the lower scenic elements. Given its short stature of mere 80cm, it would not impede most participants from viewing the remainder of the Teatterisali. And in addition to acting as a low divider between the Circle and the Pyramid, it would be help provide essential continuation of movement from one larger element to the center of the space. I wanted to make sure there would be no stop to the flow

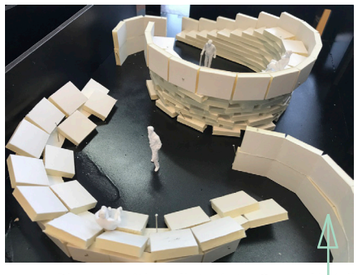


Construction of the second element, the Arc



The Curved Wall

Fig. 12: Wassily Kandinsky: Around The Circle. 1940

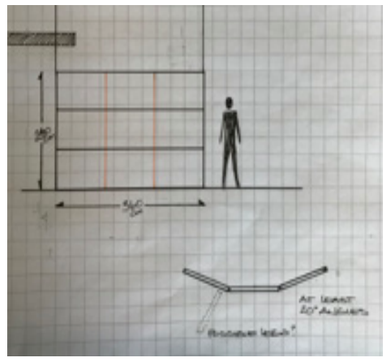


Playing with pallets, into Curved Wall

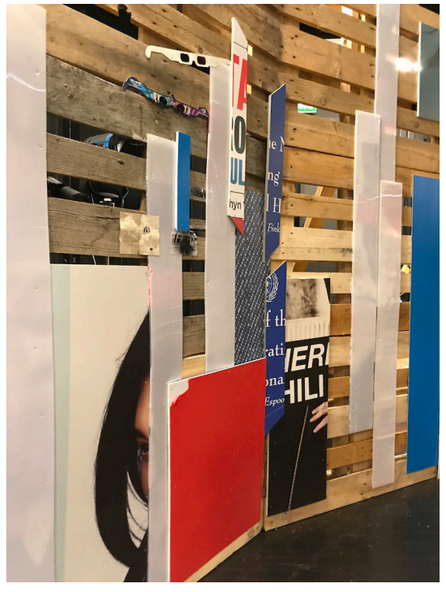
Albeit the smallest of the scenic elements, the vertical Curved Wall served a purpose as not just a wall but a sensorial guide for the motion and movement in the space. As participants would have just exited the Circle and the Arc, their energies would still be in a circling motion, and the curved wall would assist in guiding that energy toward the center of the Teatterisali.

Although initially I designed only one set of these curved walls, they became such a useful tool, we constructed three sets of differing widths. They were all built three pallets high (240cm), and one at two pallets wide (240cm), one at three pallets wide (360cm), and the largest at four pallets wide (480cm). The base construction was using wooden pallets and 2x4 legs. Also, in order to deter participants from climbing onto them, as they would not be secured for this, a skin needed to be applied.

Because I was craving color and textures but still wanted to keep the walls semi-transparent, the skin became a collected collage of residual plastics from the workshop, debris from various university trash bins, movie glasses from one of the children at daycare, miscellaneous photos done with pinhole cameras, and a portion of the loot the pedagogy students had gathered during a day of scavenging around a neighboring skate park.



Counting the number of pallets needed per wall

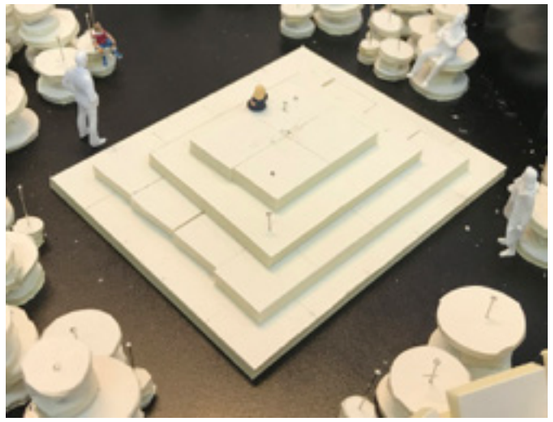


The Curved Wall also provided an important element for lighting and sound. With these walls in place, the lighting and sound technicians were able to disguise some of the mechanics at floor level, and in a safe manner not always provided during productions. Into the walls, the sound technicians were able to embed miscellaneous equipment, with some being visible while others not. Behind the walls, the technicians were able to disguise the larger lighting stands and speakers, whilst keeping out the curious eyes of the younger participants.

The largest Curved Wall, with its covering of recycled items: advertising boards, leftover plastic sheeting strips, metal found at skatepark, photographs from a pinhole photography workshop, etc.

The (Low) Pyramid

Fig. 13: Wassily Kandinsky: Square. 1927

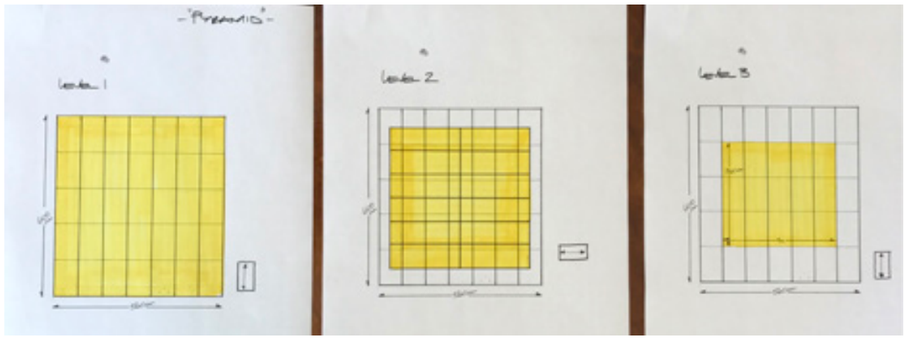


Playing with pallets, into a (Low) Pyramid

As the design neared the center of the space, I was looking for a shape to help anchor the others, and to act as a larger "empty" center space and stage. However, I was not interested in the action staying on the bare concrete floor. I wanted to offer a space with incremental steps so the younger participants could choose their own level of comfort with height, without the aide of an elder. The space was to also work for the older participants as a springboard or a place to sit or lay down and view the rest of the playing space. It would be a place of gathering, sharing, rejuvenating, whilst also acting as a slightly more conventional stage.

The shape that came to mind was that of a pyramid. However, the pyramid was not to be a smooth-sided one like the Egyptians, but to take a shape mirroring those of the Mayan civilization. The pyramid was to have small, built-in steps leading to the center, the upper level. These steps would be just wide enough to run, walk, and lay on, and low enough for the smaller participants to climb onto. It would become the lowest, yet most expansive element. The Pyramid would provide an adequate vantage point for teachers to monitor a larger number of their pupils at a time, especially the younger pupils who would busy themselves crawling under and over neighboring elements. The horizontal surfaces of the element would be covered with plywood, leaving the vertical sides bare to display each individual pallets' sides. Thus, giving the element a lighter impression than if covered entirely, and giving the opportunity for lighting and hazer/smoker equipment to be inserted inside/below each level.

The Pyramid was designed to offer more chances at Risky Play. Given the low profile and expanse of the element, it could be easier for participants to witness other participants at play or rest. Also, given the measurements and location of the Pyramid, participants would be able to run for a longer distance before, on top, and after the element, and create momentum whilst doing so. They could then opt to either stop before the edge, leap into the air, or skip down the steps. The Pyramid also offered a vaster area for Rough and Tumble play, depending on the props given. I wanted to make sure to give the pedagogy directors a wide, flat surface upon which to create their own center element.



Counting the number of pallets per level of construction.

Construction of the fourth element, the (Low) Pyramid

The Sea of Spools

Playing with spools to form a Sea Of Spools

Fig. 14: W. Kandinsky: Deepened Impulse. 1928

Although centrally located around the Pyramid, The Sea Of Spools was the very last large scenic element to be designed. Amidst the square shapes of the Pyramid and the Cube, and against the backdrop of flat theater walls and floors, I craved something more organic in shape; something chaotic, more whimsical, to break up the harsh lines. I ached for a spattering of shapes.

Much like the clusters of spots or circles in a number of Kandinsky's paintings, I was interested in the clustering of some circles and the distancing of others. Some circles would be large and immobile, whilst other smaller circles could be moved by the participants. Some circles would sit atop others, whilst some would be singular entities.

Given what I was wanting to achieve, my mind turned toward something I have used previously on projects: wooden cable spools, also known as wooden cable reels, in varying heights. Wooden cable spools come in a variety of heights, widths, and weight capacity. Although some can be entirely too heavy and cumbersome for a person or even a team to lift, they are quite mobile when rolled. Cable spools also offer a sturdy and sustainable alternative for scenic elements. They are an ecologically responsible resource, in that they are made of wood and can be borrowed from some cable companies and returned after use.

Spools being supplied and delivered by Prysmian Group

Using wooden cable spools of differing sizes, I was able to design in levels not afforded by the pallets. They provided me with the freedom to "sculpt" them in space, and to play with their relationships to each other. And because only the large ones were stationary, I was able to continue playing with these relationship as the spools were moved around the space by the pedagogy teams and participants.

Group C inspecting and beginning to play with the Sea of Spools

Initially I had intended to stack some of the smaller spools atop the larger ones. However, very quickly I decided this would not be a wise move. This could have pushed Risky Play a bit too far, giving the participants too many heights from which to pounce. So, although the model showed stacked spools, this was not to be. However, because of the variety in the sizes of spools we were able to borrow from Prysmian Group, it also became unnecessary to stack them. In their original heights, the spools gave at least four different levels on which to play, sit, stand, rest.

With the cable spools, participants would be open to practice their vestibular senses and differing modes of Risky Play. The spools gave the option for younger audience members to crawl under and even weave their way through the sea of spools. The older children were able to use them for jumping off, leaping from one to the other, rolling a spool from one student to another, and jumping over them leapfrog style. The older participants were able to use them for seating, tables, leaning posts, and even baby changing stations, if needed.

As is always the case with using any wooden elements, these spools needed to have a workable solution for deterring splintering. Especially since the space would be used by participants of all ages, and sometimes unsupervised, safety was of high importance. However, I was also interested in bringing in more scenic components to play with the senses, particularly the somatosensory or tactile sense. Although there was already quite a bit with pallets, plywood, lumber, and plastics, I wanted to give more for especially the younger audiences to enjoy. Fortunately, I was able to unearth carpet remnants in the university's basement storage. With a bit of beating, vacuuming, cutting, and stapling, these carpet remnants added not just essential safety and security to the tops of the spools, but also provided some desired pops of textures and colors.

Regularly most larger cable spools have large metal bolts protruding on the flat sides. Thus, I needed to find a solution that would cover the bolts whilst leaving the rest of the wooden surface untouched. As it turned out, I had retained a colorful collection of spray paint can lids, scavenged from the neighboring skate park. Yet, I did not have quite enough to cover all the bolts. Fortunately, another material I had gotten my hands on was a bag of used yellow tennis balls. Having long ago lost their bounce, I cut them in halves. And along with the lids, I glued these tennis ball halves to the bolts. These colorful covers provided a vibrant, playful, and sustainable solution to a possible risk factor.

The Sea of Spools with groups additions and safety tennis balls covering the bolts

Adding spray paint lids for safety covers to the bolts

The Cube

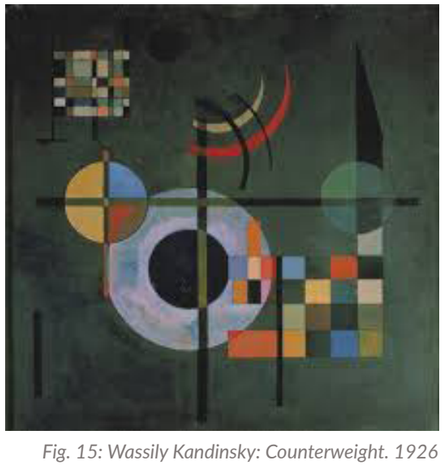
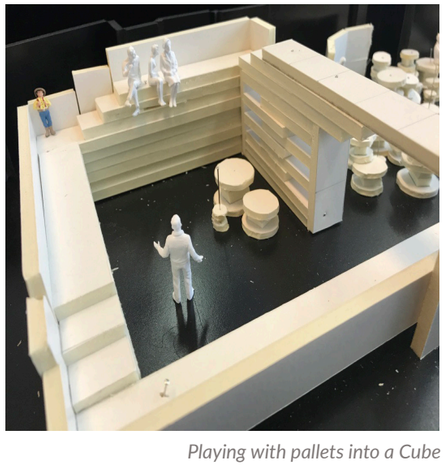


Fig. 15: Wassily Kandinsky: Counterweight. 1926



Playing with pallets into a Cube

The Cube was actually the second element I designed, with the intention of it being the opposite of the Circle. As in Kandinsky's *Counterweight*, I saw the Cube as the counterweight to the Circle. I imagined them on opposing ends of the performance space, serving as yin/yang bookends, so to speak. The Cube would be the final scenic element the participants would encounter in the Teatterisali.

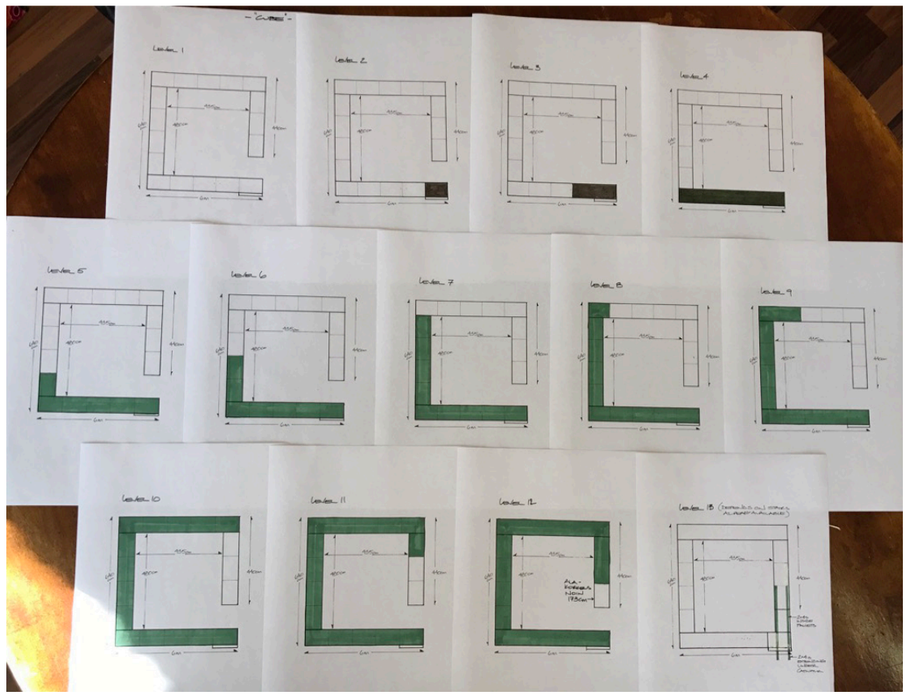
As the participants would have just exited the Sea of Spools, I wanted the next and last element to be a somewhat dominant feature, unmoving and stout. Yet I envisioned the Cube to have gravitation, to elicit curiosity about what could be contained within its walls. So, I made sure to keep the sides open, leaving even larger cracks on one side between the stacked pallets. If the space inside was lit, the outside audience could almost clearly view the goings-on inside, and vice versa. So, although the structure may have been looming over the shorter participants, it would not elicit fear in the audience nor obvious domination over the other scenic elements.

I wanted to design one of the elements to act like a box. As a child, there was no greater gift than the box in which a gift was wrapped. The box held so many possibilities for creativity. As a space, a box could easily become a castle, a house, a cave, a spaceship, a barn, whatnot. As an object, it could become a car, a bus, a horse, a boat, a coffin, etc. Of course, the Cube in *100spaces* was constructed much larger in scale, and made of pallets instead of cardboard.

However, I aimed to construct a space to resemble the castles and houses of our childhood imaginations and amusings, a space to not only shield us from the outside but to encase the creativity within a measured space.

As with the Circle, the Cube had one opening on the floor level, flanked by ascending incremental steps. Audience could be placed inside, outside, or on the surrounding deck levels. And again, this scenic element would grant the participants opportunities to practice assorted Risky Play factors, such as playing with height, speed, getting lost, etc.

However, unlike the Circle, I wanted the Cube to have a second exit/entrance point. So, in my initial design, I envisioned it reaching the second catwalk of the theatre, giving the participants the opportunity to view the entire space at a higher level than anywhere else. They would be able to view the entire area they had just meandered through, to see the exhibit from a contrasting point-of-view. Although later we were informed we could not let the audience onto the theater catwalk, the upper deck of the Cube still served the audience as a lofty observation deck, giving them an extensive view of the Teatterisali and its contents.



Counting the number of pallets per level of construction.

Construction of the sixth element, the Cube

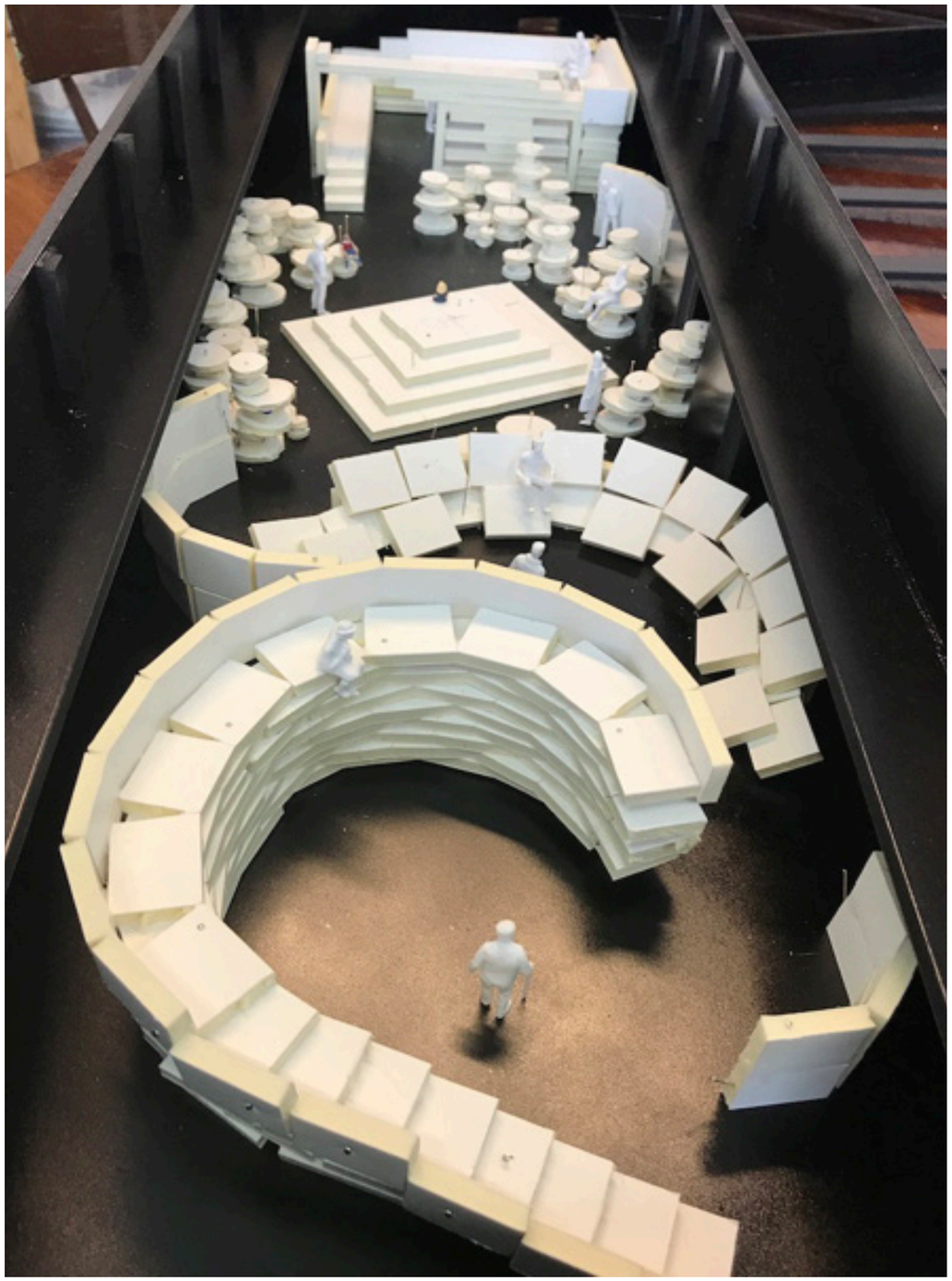
The Final Layout of *100spaces*

Fig. 16: Wassily Kandinsky: Cross The Line (turned 90 degrees counterclockwise)

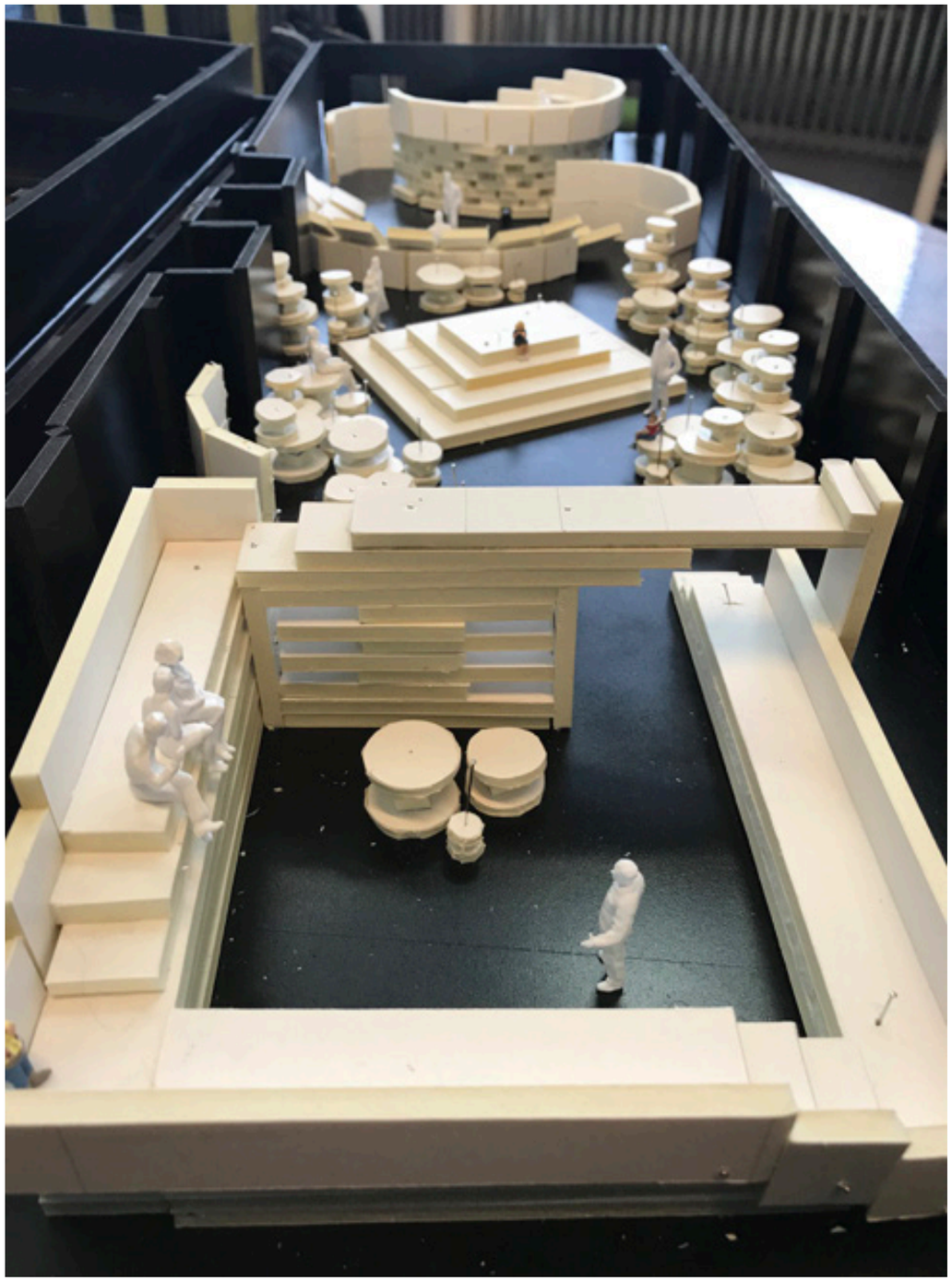
Playing with pallets, going into formation

Although it would have been prudent and much preferred to spend more time designing and moulding the performative space with the pedagogy student-directors, the powers-that-be mandated the layout be designed before the actual arrival of the pedagogy directors into the process.

As the Pedagogy directors finally entered the process, I anticipated there would be a few changes applied to the scenic elements. However, as time was running scarce, all became aware the scenic elements at large would stay in the formation I designed. This was not what I had anticipated, and felt the design process became rather lopsided and not an installation piece in itself. However, as time was not permitting we delve into possibilities quite as much as we wished, I had to be resolute and hold steadfast to those I did have control over: structural integrity, fluidity, budget, and overall flow of the scenic elements. So, after much wrangling with the ideas of motion, pedagogical factors, and the elements described in this chapter, this is how the space materialized into being:



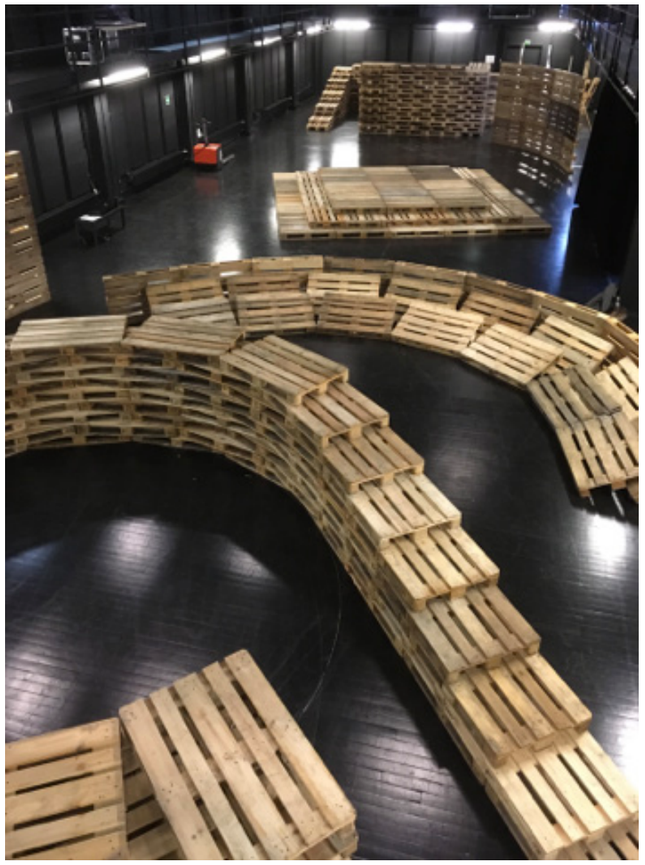
100spaces layout from Circle to Cube



100spaces layout from Cube to Circle

Layout in model form, showing catwalk crosswalks

Layout in model form, shown without crosswalks



100spaces constructed from Circle to Cube, before the addition of safety railing

100spaces constructed with safety railing. Shown from Circle to Cube

100spaces constructed with safety railing. Shown from Cube to Circle

GROUP A

LOST FIELDS /

HUKKANIITTY

Kenneth Siren
Pia Serkamo
Olga Potapova
Suvi Kajaus
Emmi Kahilainen

GROUP B

DEBRIS ADVENTURE /

JÄTESEIKKAILU

Yuko Takeda
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GROUP C

THE CALL REMAINS OR THE ICE CALL /

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GROUP D

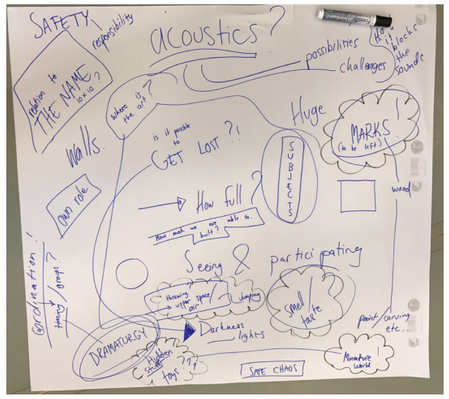
TEMPLE OF SECRETS /

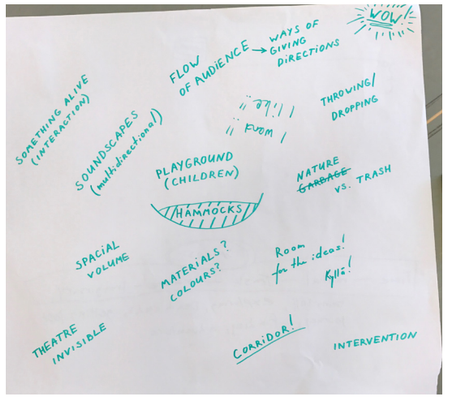
SALAISUUKSIEN TEMPPELI

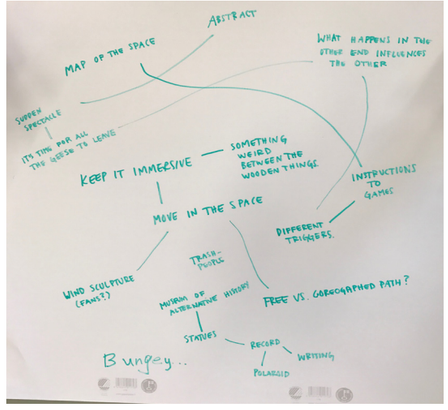
Kaisa Ritola
Anni Pellikka
Elina Sarno
Alvaro Sandoval Cazares
Leena Nuora

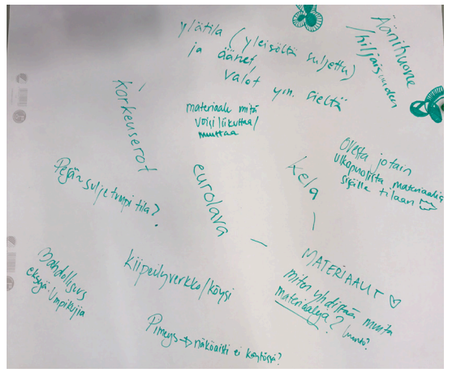
Additions to the Scenic Elements

As the *100spaces* project advanced and the pedagogy directors finally became involved in the process, they divided into four working groups (see lists on opposite page). They began to devide ideas most important to them and their project, and how to work in the space:



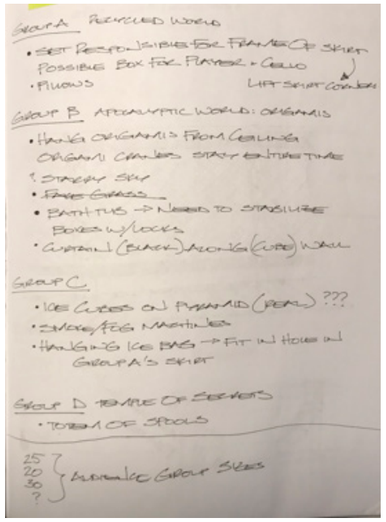


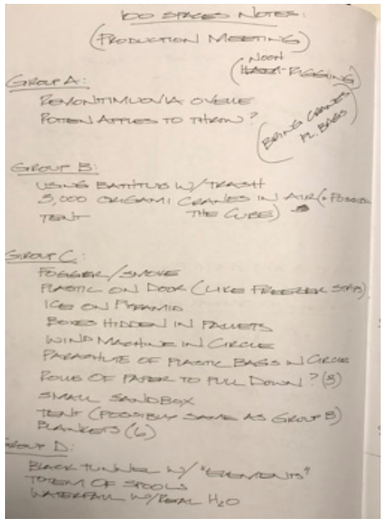




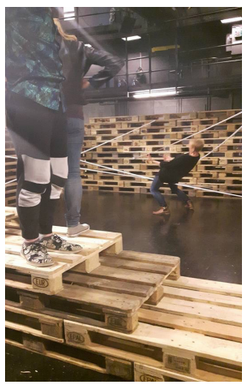
Four images above: Lists made by each group of the important elements in their prospective productions.
Left bottom image: The groups huddled together during first meeting in space
Bottom right image: Group D in discussion with lighting designer, Hanna Käyhkö in beanie

As each group's ideas began to form, there were elements to be added that required a bit of assistance from the scenic department. Unfortunately, as the construction of the scenic elements was concurrently underway, my schedule did not allow for the entirety of the wishes of each director or group to be granted. However, I tried to address each need as it arose and assess whether it was feasible given our minute labor force and compact schedule. And, of course, because the groups had just been introduced to the set and were still forming their individual productions, their ideas and wishes would continue to mould. Thus, we had to prepare for things to be added, changed, and deleted. This process would turn out to be a challenging practice in flexibility and improvisation for all entities involved.

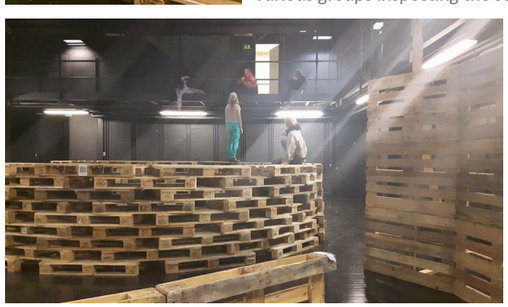


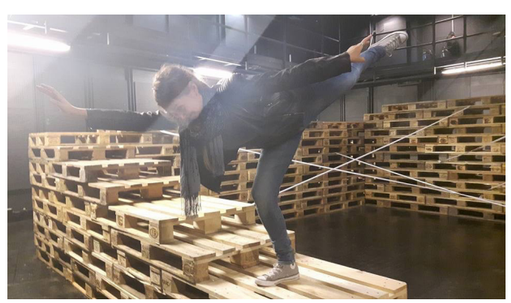


Ideas from groups



Various groups inspecting the scenic elements





Skirt of Plastic

In the early stages of collaboration with Group A, I was introduced to their idea of wanting to have someone singing while suspended from the ceiling. This, of course, was a tantalizing idea. They had also played with the idea of a large skirt and plastic, so naturally, I suggested we combine it all. At the beginning of their performance, one of the group members would be harnessed and suspended in the center of the play space, over the Pyramid. Around the waist of the microphoned performer would be a hoop, from which would cascade strips of plastic all the way to the stage floor. This skirt, of sorts, would be lit from the inside and performers and participants would be able to maneuver through it, to play with the smooth and crinkly recycled plastic material. Although the purpose of this skirt might have been different for the pedagogy directors, for me it played well into my interest in combining more elements to titillate the visual, auditory, and haptic senses of the participants.

Sketch of the plastic skirting idea

Group A and I, atop the ladder, constructing the skirt

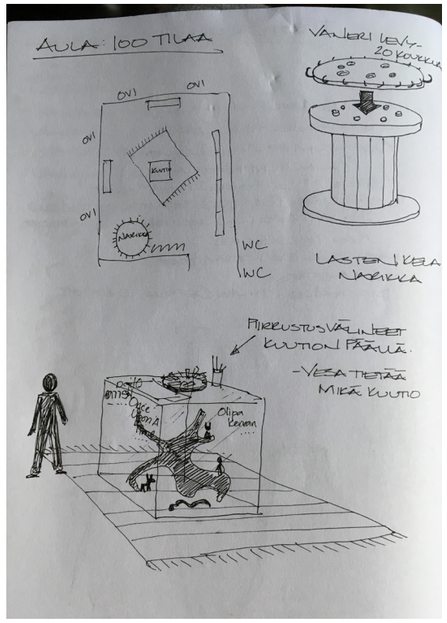
Lobby

Early in the process there had been some discussion about starting the *100spaces* project outside the actual Teatterisali. As we became aware of the young ages of the future participants, what began as ideas starting on the streets outside the Theatre Academy promptly evolved to taking place solely in the lobby. It would be much easier to assure the safety of small children in the confines of the lobby. However, as the project developed, we discovered hinderances to action taking place in the lobby as well. The proposed groups if children would be quite a distraction to the daily opersations in the lobby as well as the nightly performances taking place in the adjoining studios. So, what had begun as an idea surpassing the walls of the Theatre Academy, had quickly diminished into having to fit inside the rear of the lobby, an area apportioned for the use of just one of the studios and the Teatterisali.

This was not as disheartening as I first perceived it to be. In actuality, it was quite a welcomed stumbling block, given the shortage in the schedule and even the materials at hand. By this time, I had also ascertained the majority of the participants of *100spaces* would be younger school-age children, and the numbers could reach 40 per performance. Given that it was fall, the "coat check" needs of the children, especially groups that size, would not be satisfied by the regular Theatre Academy coat check. I needed to devise a system to accommodate larger groups of participants of lower stature, and possibly carrying backpacks and other accoutrements. And I must do this with no additional funds, nor additional labor assistance.

Taking the large wooden cable spool, I laid it on its flat side, and attached screws along the edge. Thus, quite easily, I was able to assemble a coat rack with holders for 20 items along the rim and places for bags on top, as well as places for shoes on bottom. This took care of the need for more storage solutions for the younger participants.

I then gathered all the items we had remaining from the trips to the daycares and materials from the interior of *100spaces*. We had a small bagful of toys and other small items, a real tree stump, and one large wooden cable spool. In the cellar of the Theatre Academy, I was also able to unearth a rug and a hard plastic enclosure. With these items in hand and Photoshop at my fingertips, I was set.



Sketch of lobby layout and elements

Close-up of the scene made of donated toys and found objects

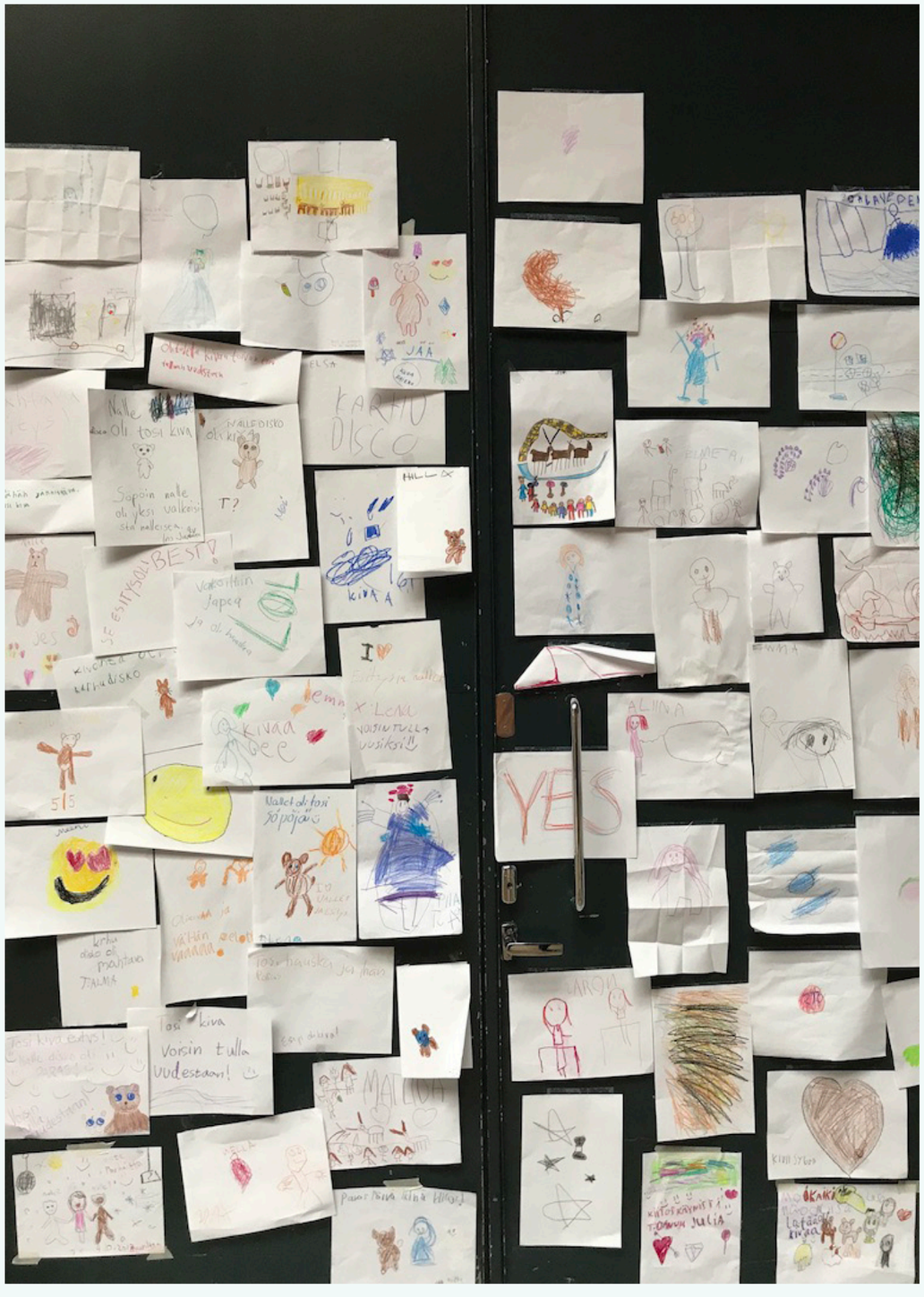
The lobby area, actualized

Considering also the age of these participants, I knew something to occupy their time while they waited in the lobby would most likely be appreciated by the adults who accompanied them. So, I decided to gather all the donated toys, and to build a diorama of sorts, using the tree stump for the scenic element and the plastic cube as an outer shell. Of course, the rug would be under it all to provide more comfortable seating for those kneeling or sitting on the floor near the diorama.

I was able to commandeer crayons and paper for the children to communicate their ideas, visions, thoughts, and even opinions. These drawings were then taped to the entrance doors for all future participants to view. The main goal for me to achieve was to interest the children in creating their own stories, using these materials as inspiration. So, whether the children would be waiting to get into the *100spaces* exhibit, or had just exited it, they would have something to further motivate their imaginations, and to know their voices have merit.

Below left: Posters to prompt participants to recall what made most impact on them from the performances
Below right and opposing page: The lobby elements in use
Following pages in green: The drawings produced by the participants, of the most memorable parts of the productions.


Love
Oli kivaa!
Rilkt
Oli tosi kivaa!
Karhut oli söpöjä
100 tilaa!
Hoippa ja kiitos!
Nähdään
IHANA ESITYS
KARHUT
HUUTO JA A OLI
PARAS ESITYS
KARHUT OLI
SÖPÖJÄ
Tämä oli ihanaa
KIVA ESITYS
HAUSTA PÄIVÄT
T. SONJA


JÄÄ
KARHU DISCO
Nalle oli tosi KIVA
Sopoin nalle oli yksi valkoisi sta nalleisen
NALLE DISCO oli kiva
KIVAA
YES
Nalle oli tosi söpöjärs
Tosi kiva voisin tulla uudestaan!

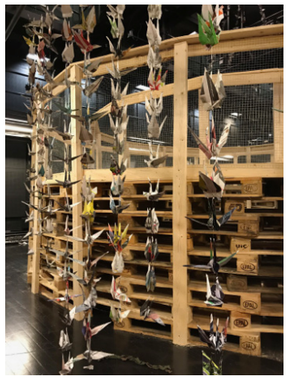
Designed and Executed by Others, Incorporated Into Scenic Design Elements

Wall of Scents by Heini Granberg, scenographer and teacher

Although we had held discussions about incorporating something of hers into the scenic design of *100spaces*, Heini Granberg's wall of scents, as such, did not come into play until the very last days of construction. However, once it was introduced to the Curved Wall, it seamlessly became a part of the scenery and assisted in bringing in additional elements of olfactory and somatosensory stimuli. Acting as fillip was a cornucopia of ingredients sugar-glued to the metal undersides of glass baby food jar lids: coconut meal, whole cardamom seeds, the shells of pistachio nuts, twigs of lavender, raw cocoa nibbles, a whole carnation, and a mixture of seeds and beans. About a dozen of these lids were attached to the main Curved Wall located by the Arc, and participants were encouraged to smell and touch the materials contained within.

Paper Cranes by Yuko Takeda, theatre pedagogy director

Folded from recycled newspapers, Yuko's origami cranes were an artistic feat in themselves. She had begun folding the cranes at the very beginning of the pedagogy directors' part of the *100spaces* process, and had a goal of making 3,000 of them. As the project advanced, her teammates joined in the crane production. I am not privy to the number of cranes constructed by the time they were hung in the space. However, hundreds were hung by singular strands by the Circle, and many, many more in a chandelier-like formation over the Cube. The origami cranes were a welcome visual addition to the scenic design of *100spaces*, and further demonstrated the delicacy and beauty that is attainable with recycled products.



Origami paper cranes, made of recycled newspapers, folded by Yuko Takeda and Group B

To wrap it up about design...

So, how does a scenic designer use artistic, scenographic methods familiar to her to convey and promote ideas of motion, immersion, risky play, exploration, ecology, connectivity, interconnectivity, and active communal imagination? And how does the lone scenic designer do this whilst addressing the needs and wants of two dozen pedagogy student-directors and the multitude of audiences-to-be?

Like choreographer Maurice Bejart asserted, boundaries offer a creative tool in which to work, and if these boundaries are not obvious or self-evident, then one should work to make them so (Markstein, 2014). As the boundaries of *100spaces* were both extremely limited with all the unknowns, they were just as unlimited with all the unknowns. I was given no budget, but possessed unmeasurable wealth of creativity and past scenographic knowledge. I was not given scripts, but had in my possession experience from the course and developed friendships months prior. I knew not the size of my crew, but knew from experience how to construct things. I knew not the concept, but knew I wanted to realize a springboard for the imaginations of all those involved. I wanted to move people individually and collectively.

In total, we employed some 480+ wooden pallets and 30+ wooden spools to construct the structural scenic elements for *100spaces*. We utilized every bit of plastic we could hoard. We repurposed every toy donated, every object found on the scavenger hunt at the skate park, all the dusty rugs discovered in the basement, and we cleared the Theatre Academy scene shop of all its sundry lumber and debris. The only new products purchased for the project were to ensure safety: the 2x4 uprights, the mesh used to construct the safety rails, and some of the plywood used for decking.

By immersivity, sustainability, and pedagogy standards, *100spaces* was a success. Of course, any project could be ameliorated with better defined didactic decisions and ecological implementation. However, even now, looking back on the design itself, the space did indeed serve as a springboard for the imagination of those immersed in it.

> You're off to great places! Today is your day! Your mountain is waiting, so...get on your way! - Dr. Seuss, *Oh, the Places You'll Go!*, 1990

Individual peda performers and participants playing on the (Low) Pyramid and Sea of Spools.

Participants and Group A performers

EXHIBITION

PRODUCTION STILLS

"Creativity is seeing what everyone else has seen, and thinking what no one else has thought." - Albert Einstein, n.d.

Although it can prove difficult to formulate an artistic project into what natural sciences would categorize as empirical evidence, this thesis may be better served by a return to the etymological genesis of the words. The term empirical originates from the Greek word ἐμπειρία (empeiría), meaning experience. Empirical evidence is the information attained via the senses, notably by observation and recording of patterns and action through experimentation (Picket, 2011).

Thus, the following pictorial documentation of the *100spaces* experience will serve as empirical evidence in the base sense of the word. The images will disclose the varied usages for the scenic elements. The images are divided by the groups, followed by those of individual performances, and finished with my analysis of how the elements played within the group productions.

GROUP A

EXHIBITION

LOST FIELDS

HUKKANIITTY

TEAM: Kenneth Siren , Pia Serkamo, Olga Potapova, Suvi Kajaus, Emmi Kahilainen


OBJECT

GROUP B

EXHIBITION

DEBRIS ADVENTURE

JÄTESEIKKAILU

TEAM: Yuko Takeda, Camila Ribeiro, Riina Salmi, Mari Koponen

GROUP C

EXHIBITION

THE CALL REMAINS OR THE ICE CALL

HUUTO JÄÄ

TEAM: Tanja Männistö, Georgina Goater, Maijastiina Palm, Helena Toivonen, Elsa Heikkilä, Satu Rapo

GROUP D

EXHIBITION

TEMPLE OF SECRETS

SALAISUUKSIEN TEMPPELI

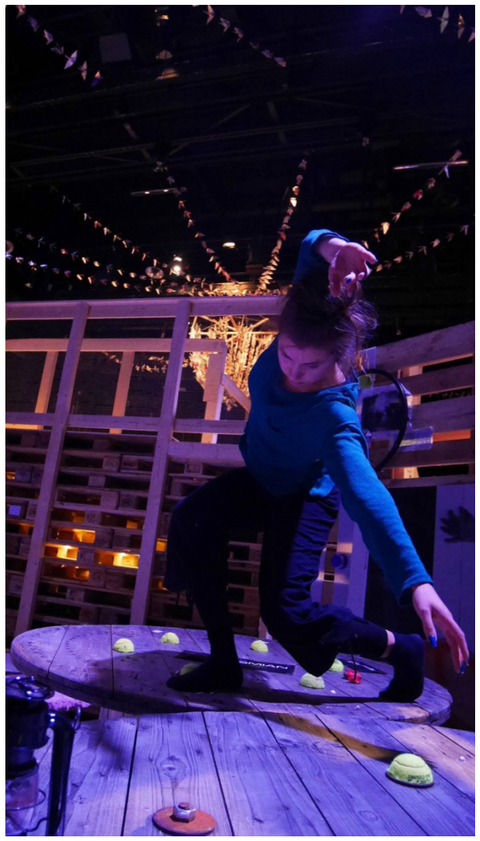
TEAM: Kaisa Ritola, Anni Pellikka, Elina Sarno, Alvaro Sandoval Cazares, Leena Nuora

The tortoise performer

EXHIBITION

INDIVIDUAL PERFORMANCES

PERFORMERS: Olga Potapova, Pia Serkamo, Yuko Takeda, Anni Pellikka, Elina Sarno, Suvi Leppänen, Kenneth Siren, Emmi Kahilainen,Tanja Männistö, Kaisa Ritola, Satu Rapo, Georgina Goater, Maijastiina Palm

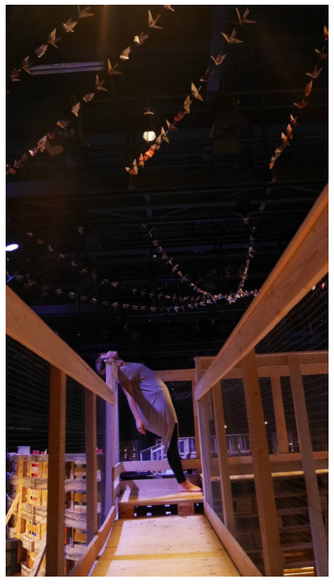


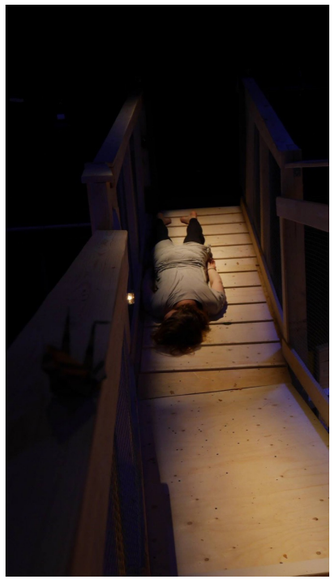
Individual performers, performances, and participants during the evenings

Individual performers during the evenings, whether the audience be children (photo above) or past pedagogues celebrating at a party held in the 100spaces *space (photo below).*

Group and individual performances at an evening pedagogy party held in the 100spaces space.

Georgie Goater in a series of photos by Aapo Juusti, performing a duet with space.





EXHIBITION

ELEMENTS IN USE

A disclaimer: My observations do not necessarily apply to all student-directors, participants, children, teachers, et al. Generalizations had to be made. They are not meant to offend, only to offer constructive criticism, or point out an observation. And, of course, these observations were made from one sole point-of-view, and made with one goal in mind: to research how the team and the audience would connect with each scenic element. These observations are not a critique on dramaturgy, performance, aesthetics, or other design elements. They are exclusively about the connectivity between scenic elements and the participants, in this case including the pedagogy student-directors and audience members.

Also, I was not able to observe every hour of every day, when individuals were able to access the installation sans group productions. Thus my analysis will only take into account that which I witnessed during my participation in the group productions and the pedagogy party.

As a set designer, it is my duty to give a solid, inspirational base upon which other designers, directors, and performers can draw. It is my responsibility to set the overall artistic tone and atmosphere for the entire production. I take great accountability for the trust that is conveyed upon me with these responsibilities, and I revel in collaborations with my fellow creative teammates.

Having worked as a professional set designer for the past two decades, I've gotten accustomed to acknowledging and appreciating the fact that, for a handful of the productions in which I participate. my designs are just a starting point. By this, I imply I understand the design will change as the collaboration advances. Designing with change in mind is done deliberately, and is utilized especially in devised, dance, and new-circus productions. And it is one of my preferred ways in which to work. Collaboration, especially with a large team, can be complicated.

However, it can also lead to unparalleled creative achievements, to levels unthought of before. Therefore, when the pedagogy student-directors finally entered the playing arena, I was eagerly awaiting their joint creative input to the model I had just presented to them.....

The model was, fortunately, accepted with some "oohs and aaahs", excitement, interest, intrigue, and only slight trepidation. Seemingly, the theatre pedagogy student-directors were relieved to see some levels for their playing space. The dance pedagogy student-directors rejoiced less about the levels, and vocalized more concern with finding larger spans of flat flooring. Both of these responses were somewhat to be expected, especially with artists whose training has taken place in the more conventional arenas. However, this would change as the project progressed. Those who had been less receptive to levels actually utilized them the most. Whereas those who had originally accepted the levels used them the least. In short and generalizing, the dance pedagogy student-directors explored and utilized the various capabilities of the scenic elements to their advantage more than the theatre pedagogy student-directors. This was very unexpected.

What was surprising at this stage was the lack of questions from the student-directors. Upon presenting an idea for the first time, I am accustomed to an excited barrage of questions and comments about possibilities and potentiality, about movement and action. However, until this project, I had also only worked in the United States and with international artists, all whose conversations tend to be more boisterous than those I have witnessed in Finland. Thus, I only knew to hear their voiced positive affirmations and questions, and did not take stock of things unsaid. I also was not directly associated with the pedagogy program, so I was not privy to the prior and developing dynamics of the teams and their teachers. I know not what had been discussed previously, in reference to what to expect of the collaboration between the designers and the teams.

After the positive reception of the model, again, I eagerly waited for collaboration to begin. I was looking forward to production meetings and rehearsals with each group. However, no such invitations came.

With the biggest obstacle being lack of time, the groups accepted the preliminary scenic design "as is", and retreated to their own spaces and schedules to create their own productions.

When the groups began their collaborations, I was quickly consigned to oblivion. It is not as if I no longer existed, but my role as designer became relegated to the that of manufacturer. I was invited to two sets of meetings where the teams would list their physical needs and wants, and from these I was to gather what their storyline would be. It was as if the student-directors knew not how a set designer operates or performs in a collaborative environment, nor were they aware how to utilize one. Or perhaps they were told not to bother designers. As mentioned earlier, I do not know what conversations were had in my absence.

Admittedly, due to scarcity in time and crew, it would be challenging to make great changes to the scenic elements. Nevertheless, some additions were achievable. This is when the idea of the large plastic skirt came into being, along with other such ideas. However, also at this very same time, Erkki Kähkönen and I were trying to design and calculate the time and construction materials needed for safety railings for the Circle and the Cube. So, not only were the groups under a strained schedule, so was the scenic department. It left no time for collaboration.

My indirect link to the pedagogy program awarded me an advantage in that I could view the teams and their processes as an outsider. I witnessed some team members become determined and strong-willed leaders, whilst some others withdrew into quiet, yet engaged followers. Of course, this is the modus operandi for many types of groups. I just hadn't expected to see it quite so quickly, nor so clearly. It was disheartening to witness how many student-directors became overwhelmed, enervated, and even taciturn. Perhaps this was the normal personality and behavior for these individuals, or perhaps it was a method to weather this particular project. Only those on the pedagogy side of this project can attest to how the project affected their behavior.

This thesis, of course, is not about the behavior of the pedagogy student-directors per se. Notwithstanding, I think their attitudes are relevant when excogitating the manner in which each team employed each scenic element. I think it also significant to consider the background of each student-director, whether from dance or theatre side of the pedagogy program to whether the student-director was an international or national student.

The Entrance and Exit

Although I had indicated an interest in having the audience enter through a side door by the Circle and exit through side door by the Cube, three of the groups chose to utilize the double doors in the middle of the Teatterisali. That only one group was willing to forego the conventional method of entry was disappointing. Disappointing not only because the productions would then enter in the center of the space, but because I would not be able to examine the movement of audience energies from one scenic element to the other in the method I had anticipated. This decision to enter from the center would not just cut the flow, but it wouldn't give it the necessary room to even begin. When entering from the center, by the (Low) Pyramid, one would be able to view the entire space, with the Circle on the left and the Cube on the right. There was less mystery left to discover. Of course, levels and sights from those levels were still to be explored. However, the mysteries of orientation and "what's-to-come" would be negated. Participants would be completely aware exactly where scenic elements were, and where the exit would be.

The Circle

If entering through the side door, the impact of the Circle was as I had desired. While it acted as a barrier to the rest of the exhibit, it was inviting in itself. I was able to witness children peeking through the walls to see what was inside, and to hold conversations with each other about what they saw in their "hole" versus what someone else saw in theirs. I saw some children boldly run up and down the steps, while some children, in the same age group (seemingly 4-5), would hesitate with each step, holding tightly onto the rails and posts, but yet continuing until they had tracked the same distance as the foregoers. Some would take a running start on the stairs, only to sling themselves from the post toward the center of the Circle. One set of children went as far with that as to use each other as bowling pins to knock down…and laugh. The Circle gave ample room for Risky Play: playing with heights, speed, and surprisingly enough, playing with impact.

Group B: *Debris Adventure* brought the audience's attention to the center of the Circle. Children gathered around a white bathtub, with a performer clad in futuristic costume made of recycled plastics. The bathtub and surround were covered in bits of plastic and newspaper, and resembled an apocalyptic wasteland. Although it was a great use of the intimacy in the space, it was rather static, and the audience was corralled into a single area with no other purpose but to watch the action presented. This didn't leave much room for exploration outside of the pedagogic action, nor many viewpoints of the action. However, they were able to create an intimate sphere without the use of a closed doorway or ceiling.

Group B: Debris Adventure

Group D: Temple of Secrets

Play, to be safe, must be free play, not coerced, managed, or pushed by adults.

(Grey, 2014)

Group D: *Temple of Secrets* also utilized the center floor of the Circle to enclose their activity. Their point of interest came in the form of a small tortoise in a larger wooden crate. The lights were turned down very low, with a spot on the turtle enclosure. Again, the space became intimate without the use of additional structural elements. However, all attention was again on the the action delivered by the performers, and the activity intended for the audience very controlled. The space was immersive, and the action somewhat interactive, with the aid of painted rocks for the participants to place around the turtle enclosure. But, again, this subdued activity left very little choice for the participants. They were expected to perform a certain duty, leaving no room for exploration on their own accord. I would have preferred audiences be given the opportunity to explore the action taking place from other viewpoints, such as on

the rim or through the walls, or whatnot. Instead of investigating on their own terms, they were further conditioned to act in a specific manner, in placid accordance with social contracts.

The most useful investigation for the interaction between the Circle, a pedagogy team, and participants came from Group C: *The Call Remains* or *The Ice Call*. Team C was able to capitalize on the exterior, interior, top rim, and center floor of the Circle. Whether the performers stood atop the rim to unfurl a canopy of plastic bags to close the space below, or whether they were dropping confetti from the grid above, the participants were free to explore without fearing they will miss out on pertinent information. Participants could lay on the floor, dance in the center, view from behind the mesh railings. Because no additional social obligations were placed on the participants, they appeared keen to investigate the wooden structure itself, to run along the rim, to climb on the sides. By not discouraging the action, they were encouraged to play with the pillows and to jump up to the canopy as it "breathed" above them. Although this activity was geared toward the children, it was interesting to witness the number of adults naturally pulled into the Circle to be a part of the action.

Participants under the canopy of recycled bags and the confetti drop during Group C: The Call Remains or The Ice Call

I realized that during Group C performances, a number of adults would congregate at the doorway, unsure if to enter the Circle or stay at bay. However, very few would exit, and congestion would be created. Thus, if I was to construct the Circle again, I would deliberate widening the entrance to allow for more standing room for the indecisive adults, or perhaps construct a ledge on the inside, creating place to sit…or stand, or crawl under, on jump from. I would be interested in the divergence in motion, action, and mood such an addition would create in a small space.

The Arc

The Arc, although short in stature, served quite well as the intermediary between the larger elements. A number of the groups such as Group D: *Temple of Secrets*, utilized the Arc for storytelling or reflection time. Whether the surface was left as-is or covered with pillows, the Arc seemed a favorite of participants aged 4-5. It provided them the option to run or slide down one side, and then climb or jump off the other side. This activity was repeated several times until it became easy. This was a clear exercise in Risky Play, with expeditious visible results. It was interesting to note the action seldom went toward the Circle. The majority of the children who engaged in this action traveled from the "beginning" of the Arc, by the entrance of the Circle, and landed facing the Curved Wall or the (Low) Pyramid at the center of the room. This is the motion I had first envisioned. And when the children were allowed to move at will, they would naturally gravitate in this direction.

Group A: *Lost Fields* created a brilliant play space using this exact motion. However, they reversed it. The children were lined up behind the Arc, and would shoot at performers in deer costumes as they leaped around the Circle. They repeated this motion into almost a dizzying effect. Using the Arc as a distancing element was an effect I had not anticipated, but readily accepted when I saw it in use. The Circle acted as a backdrop to the action taking place in from of it, while the rear of the Arc and the spools behind it acted like a barrier of safety for the children as well as the performers. Because the participants were able to spread out in a manner offering them all front-row seats to the action, all attention was afforded to the action put on by the performers.

Participants lined around the Arc.
Group A: Lost Fields

Knowing performers and participants can be naturally interested in following the motion of an Arc is valuable working knowledge for a scenic designer. Of course, this will vary with the age of the participants and the activity planned. However, the spiraling of motion, as engaged by Group A, is a testament to the power of physics in performance. This will prove useful in not just immersive productions in the future, but especially in those taking place within festival grounds.

The Curved Walls

The Curved Walls acted just as hoped, garnering a little more interest than first anticipated. They covered the lighting and sound equipment, and they moved the action away from the Teatterisali walls. The addition of the recycled advertising signage kept the participants from climbing the walls. However, the bold colors of the signage also camouflaged Heini Granberg's scented jars. If I was to employ scented jars again, I would assemble two or three dozen more jars. The jars delivered the only direct olfactory sensory input in *100spaces*, and deserve to have a much larger footprint.

The (Low) Pyramid

Because the entrance door wishes I had initially set out were only employed by one group, and the others elected to have the audiences enter and exit in the center, it is a bit difficult to ascertain the true impact of the (Low) Pyramid as a scenic element. Nevertheless, judging by the behavior of the participants, the (Low) Pyramid did, indeed, provide an expansive place of gathering, resting, running, and viewing the entirety of the main space at once. Whether clad in gold paper, as with Group D, or playing host to containers of water, as with Group C, the (Low) Pyramid provided 360 degree viewing of the action on top or around it.

This scenic element provided an ideal playground for the youngest of participants. I had not expected audience members as young as two, but the (Low) Pyramid entertained the toddlers with lower versions of playing with heights. Due to the wider depth of the stairs, toddlers were able to crawl up using their entire bodies. They were also then able to crawl down, without the fear of tumbling the entire way down.

Perhaps one of the most ornate additions to the scenic elements was the skirt of plastic made with Group A: *Lost Fields*. Not only did it offer visual variance from the rest of the space, it provided audience members with ample haptic sense play. While majority of the upper deck was covered in strips of plastic, performers would dance in and around the skirt. Participants would then be encouraged to walk up and through the skirt, and explore the makings of it.

Participants and performers playing on the (Low) Pyramid within the plastic skirt. Team A: Lost Fields

Being that it resembles a normal theatre stage, The (Low) Pyramid offered me very little way of new knowledge about audience motion. It worked as well as I had designed it to do.

The Sea of Spools

Much like the (Low) Pyramid, it is difficult to gauge the effect on motion caused by the Sea of Spools. After all, they are also located in the center and connect the Arc, the (Low) Pyramid, and the Cube. Thus, they operated in connection with those three elements, and not necessarily on their own. Nevertheless, in and of themselves, the Sea of Spools did, indeed, provide sitting, climbing, jumping, and crawling opportunities, just as predicted. Whereas adults preferred to congregate on and around them, children were not so keen to stay put.

Group C: *The Call Remains* or *The Ice Call* adopted the use of the spools early on in the rehearsal process, and utilized them with the soundscape they were building. Group C demonstrated an unparalleled openness and receptivity to the scenic elements. By that, I mean they incorporated the scenic elements into their production as if they were performers as well, and

worked with them instead of around them. Although I was not able to collaborate much with the teams, Group C collaborated with the set. This is the best for which a scenic designer in this situation can hope. They took advantage of the spools' mobility, form, and varying levels. Not only did they perform dancing atop the spools, they emboldened children to do likewise. Even if one did not hear the story of the ice caps melting, it was easy to visualize the Sea of Spools and the (Low) Pyramid were sheets of ice the bears must try to find. Group C was able to capture the attention of the audience in a completely open space by utilizing music, motion, and levels. It was interesting to observe how the majority of the child participants would opt to dance, stand, sit on levels as well.

Participants and performers playing on the Sea of Spools. Team C: The Call Remains or The Ice Call

In this *100spaces*, the spools were no more than two or three deep in rows. In the future, I would like to test the effectiveness of deeper sets of spools, and to investigate which audiences would rather walk atop the spools, versus those walking through them, or crawling under them. I would like to analyze how this variation in audience movement would affect the dramaturgy in immersive productions. And I would also like to study whether child participants in immersive projects opt for higher levels of standing or sitting due to mimicking or wanting to see performers closer to eye-level, or for another reason.

The Cube

In my initial design, I had constructed the Cube to be the very last element the audience would confront. The Cube was meant to act as the crescendo of the *100spaces* set. It would be the tallest, widest, most intricate, and the last element before the audience's exit. They would be able to view the entirety of the space, from corner to corner, as well as all the catwalks above. They would be able to access the first set of catwalks, and soar above the whole area.
Also, due to safety concerns on the exit stairs, the catwalks became off-limits to the participants. Nevertheless, the participants were able to still access the heights of the first catwalk, and still take in the playing space.

As discussed before, when audiences were guided to enter and exit through the middle doors instead of the side doors, the idea of a studying the cause and effect of motion was not possible in the same methods. With middle entrances and exits, the motion would begin from the center and work its way outward. A non-linear sequence of motion does not offer quite the same effects for research in motion and movement as linear sequences.

Participants viewing the playing space from rim of the Cube

An unexpected result I found to occur every time I observed either performers or participants on the rim of the Cube was how they would take notice and interest in any persons opposite of them on the rim. It made no difference if they were on directly opposing sides or on the adjacent sides. They noted interest in the doings of the other person, even more than viewing what was otherwise around them. This is, of course, expected of the performers. However, on the occasions I was able to observe them, many of the children also seemed to resort to playing follow-the-leader, whether they were traveling up or down the rim. I would like to discuss with researchers of Risky Play if this is something common in children, to perhaps combat or alleviate their fears.

Group A: *Lost Fields* incorporated the height and intimacy provided by the Cube into their dramaturgy seamlessly. On the rim, facing toward the center of the space and with the aid of a bullhorn, a performer was able to orate to the participants strewn about the floor level of the space. Yet later, the performers would gather the participants inside the walls of the Cube, into an intimate space filled with flora and fauna. The performers would then perform around the rim to the audience below them. This seemed to work quite well for the younger audiences. Although I did notice some children huddle into the corners, and lose interest in the action above. This occurred when the action would be immediately above them. As soon as the action would move to another side or corner, the children would refocus their attention on the actors. The same did not take place in the Circle. Whether this has to do with height, corners, proximity, or the action itself I do not know, but would be interested in finding out.

The Cube also offered a refuge of quiet reflection, with the opportunity to sit on the floor and lean against a solid back. The Cube drew into its walls participants of all ages. I propose some of it has to do with it resembling a castle, with strong walls and angles. And although it also included no roof, Yuko Takeda's chandelier and spread of origami newspaper cranes provided

a tent-like structure above all who entered the space. Inside the walls of the Cube is where I would discover small gatherings of children when they wanted to be apart from the main events. Perhaps because of its clubhouse, box-like feel, these children found solace in the corners. Through the pallet-walls, they would still be able to view the events on the other side. However, they would not have to participate wholly. I had not intended on the Cube as being a place to hide. However, I am pleased to be reminded such a place should always be made available for those who need to recharge. This was a very valuable lesson learned, especially for productions that are immersive in nature.

100spaces has also helped me see and understand more clearly the social contracts we adhere to with age. The younger the participant, the less naturally inhibited they were. Their physical responses, when they believed no one to be watching, were unadulterated and honest. Their physical responses, when they knew they were under observation, were slightly more sullied, and dependent on the attention they were seeking from fellow children or the adults. Their verbal and written responses were also slightly less candid, as it was apparent some children were seeking approval from the adults conducting the conversation or drawing period.

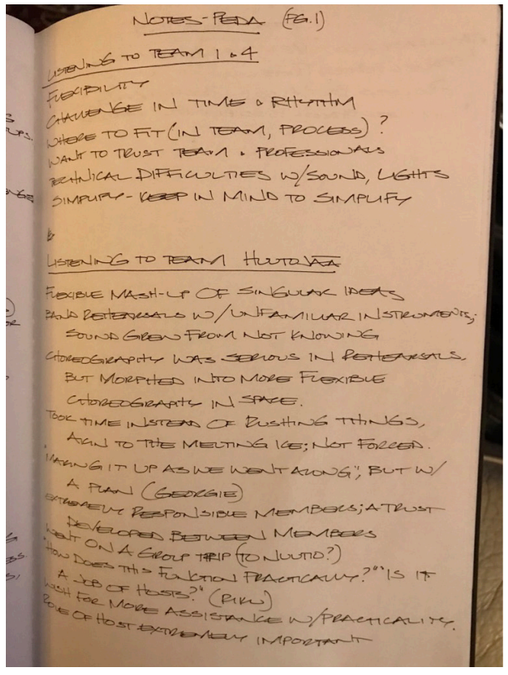
Older children and adults can be uninhabited as well. However, this appears to be more of a response of resistance or insurgence, rather than an instinctual one. Instead of a direct one-step thought process, it becomes a two-step thought process. This second-step allots the audience member the power of choice in reaction. With age, it becomes a choice to respond without restraints.

However, as could be observed with the participants and performers of *100spaces*, social contracts are learned early and recognized throughout life. To what degree we follow each and every one we are taught, that becomes our choice the older we become. Monitoring this as clearly as I was able to in *100spaces* will be of great benefit to me in future productions.

To observe the younger children without guidance from a teacher or a pedagogy group member provided me with valuable insight into the elemental human reactions to their surroundings. This is very useful information for not just future immersive projects, but each of those requiring audience participation of any kind. I have always held a keen interest in base reactions of audience members. I believe it is crucial to scenic design, especially in immersive spaces, to

examine and understand the primitive reaction a space will elicit, before any other stimuli or thought can be introduced. Thus, recognizing the progression of social contracts with age will aid me with scenic decisions in future productions.

Although I initially approached the *100spaces* project as a study on the effects scenic elements have on motion and movement, I discovered a topic in desperate need of research. It is truly unbelievable to me that collaboration between set design students and dance and theatre pedagogy students has garnered very little, if any, academic attention. There is ample knowledge to be gained from both parties, and cooperation between the two has the possibility to expand viewpoints, methods, and creativity. It would be foolish for any university with these study lines not to pursue collaborations between pedagogues and designers.



These notes were taken during the pedagogy feedback section. This feedback session was geared toward pedagogy students assessing their experiences within their studies and the 100spaces *project. Although the vast majority was toward teachers and the program, I was able to find critique applicable to the scenic portion as well.*

Yuko Takeda performing during a party to celebrate a milestone in the pedagogy program.

A young participant atop the Cube

CONCLUSIONS

DISCUSSION AND ANALYSIS

Main findings and theoretical contributions.

SUGGESTIONS

Further research and action scenographically, ecologically, pedagogically.

REFERENCES

BIBLIOGRAPHY

CONCLUSIONS

DISCUSSION AND ANALYSIS

"Creativity is inventing, experimenting, growing, taking risks, breaking rules, making mistakes, and having fun."

– Mary Lou Cook, n.d.

100spaces, as a case-study, demonstrates a correlation between theatre and dance pedagogy and scenic design. The results indicate a general lack of awareness of how the other performs, and what need the other can serve in their own spheres. Analysis indicates that although pedagogy programs teach academic, theoretical, and philosophical concepts, their studies could be greatly amplified by the addition of those with design abilities, dramaturgical creativity, and ecological awareness. And vice versa. Students in both curriculums would greatly benefit from closer collaboration with each other.

In line with the hypothesis, *100spaces* worked, indeed, as a workshop or theatre laboratory to view and practice the connection between theatre and dance pedagogy and scenic design. From similar principles or values about audience interaction and senses, to the necessity of teaching and adhering to sustainable practices, to the inter-connectedness of elements in the environment, the results met some of the

main expectations set forth at the beginning of the thesis. The varied use of the scenic elements study motion and cause and effect, in their basest of material forms. The application of sensorial elements, whether immediately evident or almost imperceptible to the audience, became more of interest than first hypothesized. Prior knowledge of sensorial needs would have had some implications in the design process. All in all, the scenic elements and their usage demonstrated what the initial hypothesis had predicted.

Furthermore and supporting the initial hypothesis, what became more apparent than any other element was that of time: time for collaborative entanglement, time for cohesive creation, time to workshop ideas. The time needed to synergize the ideas of the various directors and designers eventually emerged as the most significant element, and the lack of it developed to be disadvantageous and detrimental to the production. If given the necessary amount of time, pedagogy and scenic design colleagues would benefit greatly from collaboration.

100spaces provides a new insight into the relationship between students of the pedagogy program and the scenic design program. Indeed, it disclosed a gaping void in the structures of both programs. Neither is taught the value, or perhaps even the existence, of the other, and how they can enrich each other creatively, socially, and environmentally. Returning to the quote by Helene Gee Markstein, in referring to having a set design done prior to a choreographer or dancer entering the scene:

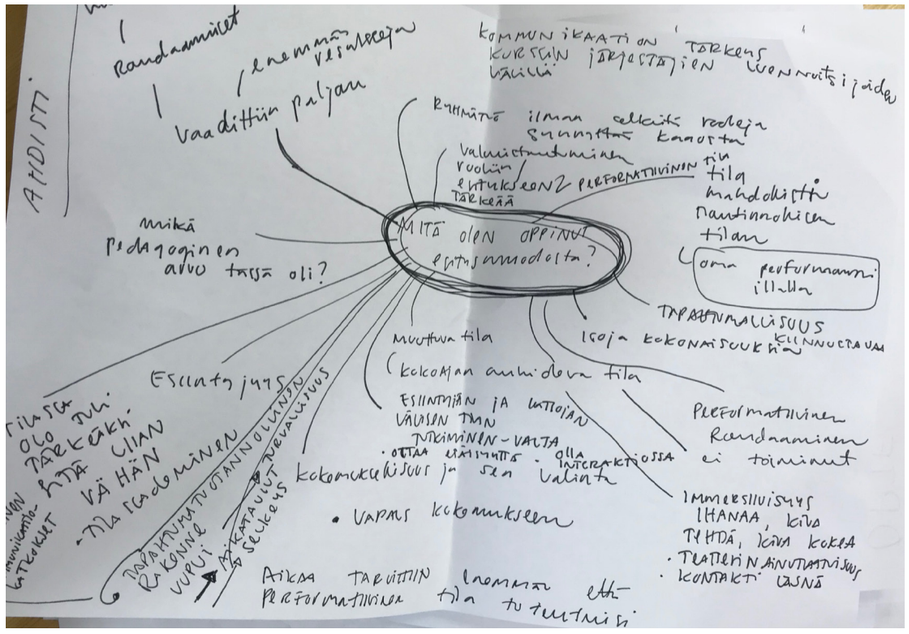
> (This method) alerted the dancer/choreographer to the commonalities in composition arising through the elements and principles of design, including form, shape, line, space, mass, color, unity, movement, texture, rhythm, direction, etc. (Markstein, 2014:3)

There appears to be no research done on the topic of collaboration specifically between pedagogy and set design, or at least no research written in English or Finnish. However, as other closely related research suggests, theatre and dance pedagogy and scenic design students learn and utilize an immeasurable number of the same methods to push for similar objectives. Yes, pedagogues search for the most fruitful methods to educate a population. Yet, they are educating the same population theatre hopes to acquire, whether at the current age or after.

As discussed in the Pedagogy section of literature review, perhaps the closest to direct research between pedagogy and scenic design is of that done between education and the environment. If, as according to the Reggio Emilia approach, the adults are the first teachers and the environment is the third teacher, it can be construed that theatre and dance pedagogy teachers are the first teachers and the set design is the third teacher. Thus, making the relationship between the teacher and the designer of the environment of extreme importance.

It can prove quite difficult to derive truly quantifiable or tangible results from research conducted on unquantifiable elements such as art, motion, embodiment, the senses, and intuition. However, in the case of *100spaces*, there are three valuable sets of feedback from which to draw results. The first is the children's feedback received immediately following performances. These drawings can serve as evidence of what they deem most important or memorable (pages 102-103). The second is the feedback from three individual pedagogy students-directors from a survey I sent to all the pedagogy student-directors after the production concluded. This was solicited for overall feedback about the process of collaborating with a set designer (pages 151-153). The third set of feedback came from the pedagogy student-directors themselves in a joint assessment session with the pedagogy program directors (pages 154-155).

Collective review drawn out by the pedagogy student-directors of the 100spaces project, in whole.



Individual PEDA responses to questionnaire about scenic department

WHO YOU ARE
Name: Georgie Goater
PEDA theatre or dance?: DANCE PEDA
Group Name: Huutöjää
Character name (if applicable): Shadow Lady
Any other item of interest:

Georgie Goater. Photo by Aapo Juusti. (photo chosen by performer, herself)

DESIGN PROCESS
What in the design process was a positive: All the group brainstorming was inspiring, since my own abstract interests got cooked up in a pot with my interpretations of others' ideas and interests. Also having a spatial perspective from the two scenography students was a fresh artistic and pedagogical combination for me to approach the thinking collaboration in, at such an early stage of the process. It was nice to conceptualise and dream together.

What in the design process was a negative: There was no negative. It was a big surprise that Ia had completed the design process over summer after our group discussions. One element of surprise, was that the spatial design had so far been collaborative and then the result was executed by Ia alone - another element of surprise was how impressive this was. Of course, she had executed the design based on the hive mind of the group established in spring, and it was so interesting to see how all of our ideas and discussions had ben processed incorporated in the result of the the desigmer's work, creating the result that it did.

EXECUTION
What in the execution was a positive: The life size version was just like the model design! The details were very important - the sanding, and consideration for climbing on the set. Also the recycled materials as the basis for the design was conceptually and visually beautifully satisfying.

What in the execution was a negative: No negative in the design, but inside the the scheme of the project which was clearly not enough time all together, there was little time remaining for all the groups to get decent enough time inside the completed space for rehearsals and run-throughs.

SURPRISES
What surprised you in a positive way: The grand scale of the set desing and exeution. But how simple and straightforward the building appeared to be when there were enough hands helping the process. A simple concept that was so pleaseing to the eye, and the experience. A single object (multiplied) which transformed the spatial expereince of a theatre, like a futuristic playground for the imagination.

What surprised you in a negative way: Sawdust. I am only half-serious. There was nothing really negative.

FINDINGS
Your overall findings with using a set designer for this project: it was great to have this perspective already during the conceptualisation for the performance. We started on equal footing. But in the end, for such an ambitious project it was important to have an expert in the discipline of set designing.

What issues were addressed properly: Safety!!!!!! Mathematics. Contacts for ordering the materials and supplies. Knowledge of materials when building.

What do you wish had been addressed:

ANYTHING AT ALL
Feel free to express anything at all you would like: I am interested in the fact that, despite the set being made of solid, hard materials constructed into a concretely set structure, each group's performance utilised it so differently that the space transformed completely for each show like magic. Of course, other significant elements such as lighting and stage props contributed to this as well as the atmosphere derived of the show's and performers' intentions, it still says a lot about the quality of the set. It had its own destinct character as a grand scenographic design, and yet it was intrinsically transformative like a blank canvas. This was an essential quality for the nature of *100spaces*.

WHO YOU ARE
Name: Anni Pellikka
PEDA theatre or dance?: Theater
Group Name: Temple of Secrets
Character name (if applicable): Turtle
Any other item of interest:

Anni Pellikka Photo by Aapo Juusti. (photo chosen by performer, herself)

DESIGN PROCESS
What in the design process was a positive:
the beginning process and planning, listening part was great. Listening and co-operative atmosphere.

What in the design process was a negative:
Timing, as it was hard to plan space-oriented performance without experiencing place all set.

EXECUTION
What in the execution was a positive: it seemed like it was on-going process.

What in the execution was a negative: Timing.

SURPRISES
What surprised you in a positive way: I found myself adapting to new settings and situations easily.

What surprised you in a negative way:
The amount of colourful walls / trash in space was surprising, as we thought space would be quite blanco (just the huge rakenteet made of wood) so especially in our world we used time hiding some most colourful things. It was also surprising how full the space got with all the design already.

FINDINGS
Your overall findings with using a set designer for this project: It was inspiring to throw ideas and see the creative process on the other side.

What issues were addressed properly:

What do you wish had been addressed: maybe the “little details” in the place, like using text like Object (the cloth mark) in the setting and some those kind of things that clearly catch the eye and would be nice have some relation with actual performances :)

WHO YOU ARE
Name: Yuko Takeda
PEDA theatre or dance?: THEATRE
Group Name: Jäteseikkailu / Waste Odyssey 3000
Character name (if applicable): I forgot!! A Japanese woman for sure.
Any other item of interest:

Yuko Takeda. Photo by Laura Malmivaara. (photo chosen by performer, herself)

DESIGN PROCESS
What in the design process was a positive:
It was exciting to witness how the set was being built, developed, and changed as I was imagining my part in it. The set designer (You) was approachable and open for any of my crazy ideas, which made me feel that I was indeed a part of the set-building process.

What in the design process was a negative:
It has a lot to do with time constriction. I just wished that there had been more time to be in the space to feel, breathe, and develop my character with the set.

EXECUTION
What in the execution was a positive:
The space came alive with each group and audience. It was so present as “another world,” far from a familiar school building. I thought that the set was designed to leave a lot of room for us the performers to create our own spaces, while making a distinct artistic statement.

What in the execution was a negative:
A few safety concerns regarding climbing up and down a few structures were present when we were dealing with little children.
I don’t know if it has anything to do with the set, but the air in the space caused a minor respiratory problem in me. I started to cough frequently as I stayed for long hours in the space.

SURPRISES
What surprised you in a positive way:
How the origami cranes and the whole set complemented each other.

What surprised you in a negative way:
The amount of dust coming off of the set was surprising.

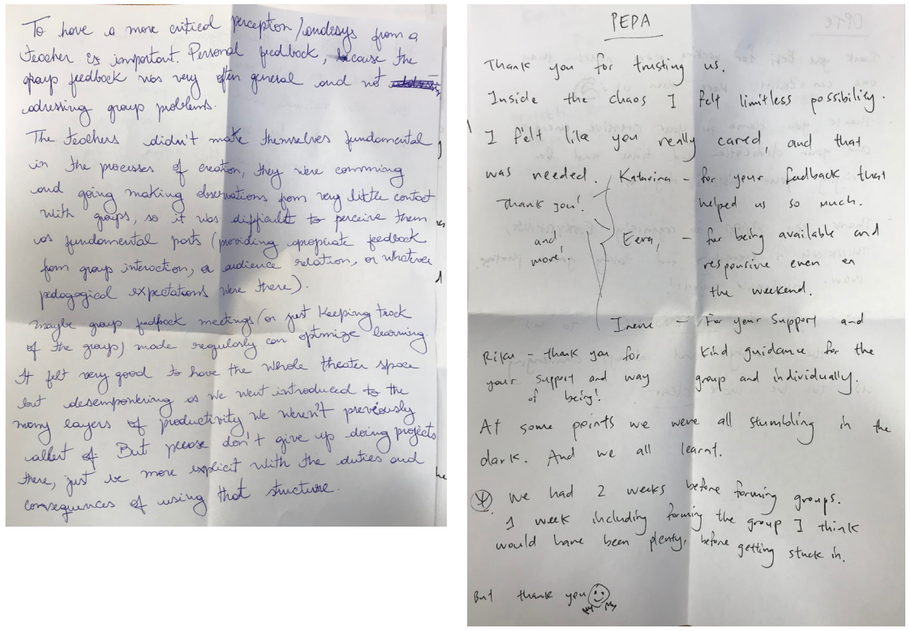
FINDINGS
Your overall findings with using a set designer for this project:
It is a very important, exciting thing to work with a set designer from the early stage of a creative process. It makes a performer’s process more organic and engaging and gives rare opportunities to learn theatre-making from a designer’s point of view.

What issues were addressed properly:
Overall, our creative ideas were equally treated with serious consideration and effort to execute them.

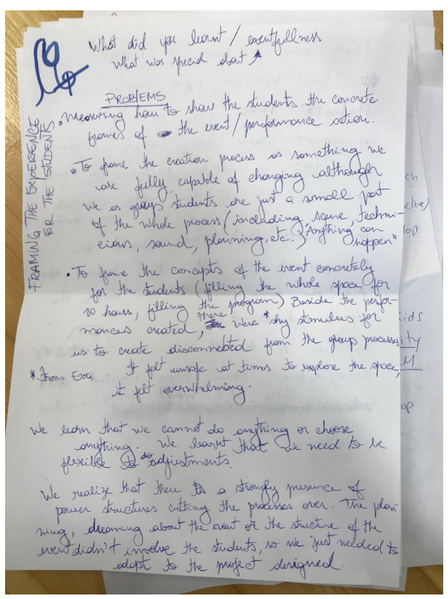
What do you wish had been addressed:
Scheduling. There were issues with distributing time in the space to each group equally.

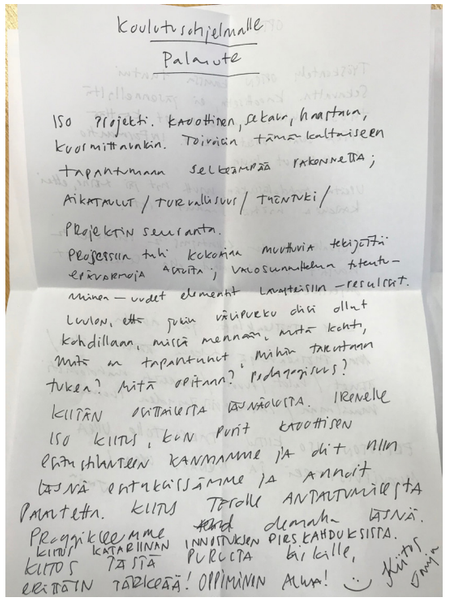
ANYTHING AT ALL
Feel free to express anything at all you would like:
Thanks for all your hard work. I’ve learned a lot working with you.

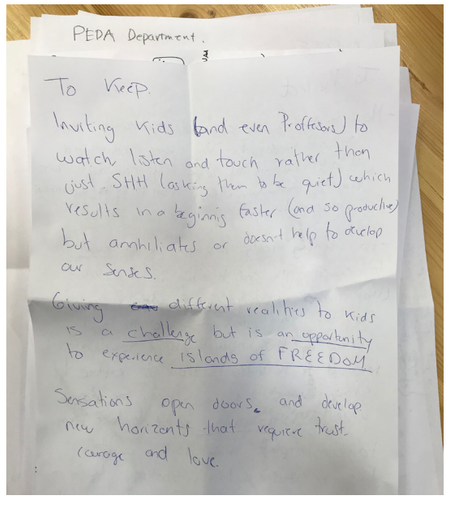
Group PEDA responses about entire process (more available upon request)

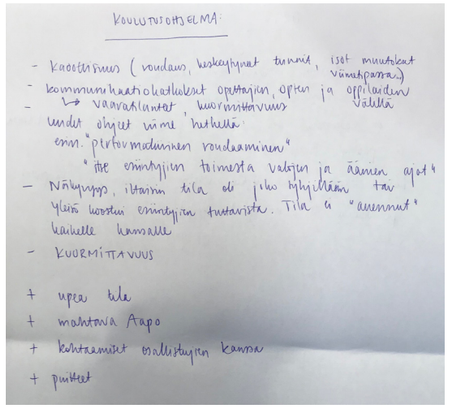


Pedagogy student-directors' feedback of the 100spaces *project*









Pedagogy student-directors' feedback of the 100spaces *project*

What can be garnered from the pedagogy feedback is mainly the lack of time. This major limitation is noted most often in the writings, followed by overall lack of communication, structure, advertising, parameters, and cohesion. A scenic designer does not have much control over these factors, especially when the comments are of the entire process and not solely toward the scenic department. However, they are still valuable feedback, especially when encountering many similar limitations along the way.

It is beyond the scope of this study to calculate how much time is needed for cohesion to take place. However, future studies and productions could begin to formulate an approximate timetable for this sort of production. Future collaborative university courses and productions can further develop the thematic research of immersivity, senses, risky play, sustainability, theatre laboratories, movement, shapes, etc.

The correlation between dance and theatre pedagogues and scenic designers is worth further study. Whether the examination is solely in class or through a production, such as *100spaces*, the introduction and collaboration is beneficial to both parties, and should thus be considered vital to their curriculums.

> To sit down means to calm down without rush and fuss, stop and reflect, analyze all pros and cons, count all possible merits and faults.. - Sunday Adelaja, n.d.

CONCLUSIONS

SUGGESTIONS

"If you want creative workers, give them enough time to play."

- John Cleese, n.d.

The results of the *100spaces* production should be taken into account when considering how to proceed with the two separate university programs. For one program to ignore or negate the existence of the other does a disservice to the students about to enter the professional realm. The university years are a time for research, experimentation, exploration, and making and learning from mistakes. For both pedagogy and scenic design students to collaborate in a laboratory theatre capacity would be of great artistic and pedagogic benefit to both parties.

As budgets are consistently under scrutiny at arts universities, the following recommendations are taking that into account. The bottom line, even if in the Triple Bottom Line, is an inescapable factor of university programming and functioning. The recommendations below are not made in jest, and take into account the time needed

to implement, the financial investment, and the non-financial investment (human resourcces, efforts, etc):

- Produce *100spaces* again with the same set. However, with the new set of pedagogy students, give them the plan and model at the beginning of their pedagogy studies, divide them into groups early on, and give them time to ruminate on ideas throughout their two years of study.
- Bring in a new set designer for each new group, and work off the existing design (the one designed for this initial *100spaces*) to investigate how the collaboration between pedagogy and scenic artistry can further inspire each team. With an already drawn set of limitations, meaning the already designed foundation of the set, the groups would be able to further develop their ideas about dramaturgy, senses, immersivity, risky play, interconnectedness, etc.
- Have new set design student(s) meet the new pedagogy students at the beginning of their studies. Have them connect periodically throughout the two years, whether through mutual courses or meetings. Thus giving them time to merge as collaborators, and giving their ideas time to marinate.

Collaboration between pedagogy students and set design students is a valuable tool, and should not just be continued but nurtured and cultivated. As witnessed with *100spaces*, the possibilities are innumerable, but warrant the advantage earned with time. In the words of Germany Kant,

> It is more important to go slow and gain the lessons you need along the journey than to rush the process and arrive at your destination empty. - Germany Kant, n.d.

100spaces did not arrive at the destination empty, in the least. The idea and parts of the structure, pedagogically and design-wise, stand strong. However, so much more could have been gained along the way if given the time for more extensive collaboration. The initial pedagogic ideas and the initial set for *100spaces* deserve further exploration, examination, and analysis. And, perhaps most importantly, the programs and the students deserve to see how this collaboration can best benefit them in their future endevors.

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